2012

TRANSPORTATION PLANNING AND RESEARCH:

ANNUAL WORK PROGRAM AND COST ESTIMATE

Idaho Transportation Department

Amended

8/8/12

Project – SPR Planning A011(202)
Project – SPR Research A011(203)
Project – Non SPR Planning and Research

Fiscal Year 2012
October 1, 2011 – September 30, 2012

ANNUAL TRANSPORTATION RESEARCH WORK PROGRAM AND COST ESTIMATE

FISCAL YEAR 2012
October 1, 2011– September 30, 2012

State Planning and Research (SPR)
Part A: Planning
Part B: Research
Non SPR Planning and Research

In cooperation with the

US Department of Transportation
Federal Highway Administration

APPROVED BY _____

Tom Cole
Chief Engineer
Highways Division

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Work Authority F12901A, Key #11202

Part B: SPR Research

Work Authority F12901R, Key #11203

Non SPR Planning and Research

Cost Summary

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PART A:

SPR

PLANNING

Work Authority F12901A, Key #11202

ITEM 1.0 – GEOGRAPHIC INFORMATION SYSTEMS (GIS)

ITD CONTACT: **Brian Emmen**
GIS Manager
(208) 332-7889

MISSION

To improve and expand ITD's Geographic Information System (GIS) by centralizing the program in the Division of Transportation Systems to serve department wide needs.

Our mission is accomplished by:

- Working with internal and external partners in development of applications and data to improve efficiency and distribute GIS technology;
- Assisting internal customers in the development and maintenance of their GIS data;
- Maintaining and providing a strategy for upgrading the Linear Reference System;
- Returning the Local Highway Inventory System from LHTAC to internal ITD control
- Working cooperatively with Department of Administration's Geospatial Office in the Transportation Technical Working Group and in partnership with Inside Idaho.

ITEMS IN THIS SECTION

There are four sub-items in this section:

- Item 1.1 – Digital Mapping and GIS
- Item 1.2 – Linear Referencing System
- Item 1.3 – Local Highway Program
- Item 1.4 – GIS Program Development

TOTAL GEOGRAPHIC INFORMATION SYSTSEMS BUDGET

Federal Aid	597,800	**Match**	$149,400	=	**$747,200**

ITEM 1.1 –DIGITAL MAPPING AND GIS (CF-P233)

ITD CONTACT: **Tom Marks**
Senior GIS Analyst
(208) 334-8225

OBJECTIVES

- To provide maps for use by ITD, other government agencies, the private sector, and the public.
- To implement GIS technology to support and enable ITD projects.

METHODOLOGY

The roadway base map is maintained to reflect the current road network based on information from highway plans, local highway district updates, imagery, or aerial photography. Special project maps are completed and specific training is conducted as necessary to meet department needs and customer requests.

FY2012 PRODUCTS

- Maintain the transportation geospatial data layer for all roads functionally classified minor collector and above.
- Maintain a geospatial map and image online library for internal access to state-level databases that support GIS analysis.
- Process special requests.
- Coordinate GIS software and data development training needs department-wide.

DIGITAL MAPPING AND GIS BUDGET

Federal Aid	$232,300	+	**Match**	$58,100	= **$290,400**

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	5/14/2012
Letter Sent to FHWA:	☒ YES	☐ NO	Date Sent:	5/18/2012
Approval Letter Received:	☒ YES	☐ NO	Date Received:	5/23/2012
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: Shifting funds to support IPLAN project described in Item 2.4 of the Work Program.

ITEM 1.2 – LINEAR REFERENCING SYSTEM (BE-P274)

ITD CONTACT: **Randy Rowell**
Research Analyst, Principle
(208) 334-8206

OBJECTIVES

- To provide ITD with a linear referencing system by which information systems with various road-related business data can be uniformly cross-referenced
- To provide an accurate and reliable method of identifying routes and features along the State Highway System, as well as all roads that receive state or federal aid
- To communicate to state and federal agencies, units of local government, and the public, information about state-maintained roads as well as locally maintained roads that receive state or federal aid.

METHODOLOGY

The current linear referencing system (MACS) is being migrated to the Agile Asset Network Manager, on a network server for easier maintenance and access by the many systems currently being used or developed within the department that utilize a location reference. Both network and mainframe systems will be maintained until all applications using the current mainframe system are migrated to the new network-based RDBMS system. The MACS location referencing system is the ITD standard for transportation feature location.

FY2012 PRODUCTS

- Continue migrating the current linear referencing system (MACS) to the new Linear Reference System.
- Determine existing accesses to the MACS system, currently located on the mainframe computer, in preparation for conversion to relational database.
- Update the location referencing system with new state highway system and federal-aid system projects.
- Provide quality control and assurance for attributing the geospatial data with MACS codes for all roads that receive state or federal aid.

LINEAR REFERENCING SYSTEM BUDGET

Federal Aid	$114,500	+	**Match**	$28,600	= **$143,100**

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	5/14/2012
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Comments: Shifting funds to support IPLAN project described in Item 2.4 of the Work Program.

ITEM 1.3 – LOCAL HIGHWAY PROGRAM (BA-P221)

ITD CONTACT: **James Hill**
Local Road Program Coordinator
(208) 334-8227

OBJECTIVES

- To compile the *Annual Local Highway Mileage Report.*
- To work directly with LHTAC (Local Highways Technical Assistance Council) to bring this function back into ITD.

METHODOLOGY

Classification of roads and determination of mileage is submitted by local road authorities with provisions for annual updating. This classification serves as the basis for distributing state highway user revenues annually to local rural transportation agencies. Information submitted by local road authorities relative to location of roadway is the basis for the local roads database.

FY2012 PRODUCTS

- Submit the Annual Highway Road Mileage Report.
- Prepare data and maps for public distribution to local highway authorities.
- Work with local highway authorities to update the local roads database and maps.
- Develop a work plan to bring this function back into ITD.

LOCAL ROAD PROGRAM BUDGET

Federal Aid	$128,600	+	**Match**	$32,100	= **$160,700**

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	5/15/2012
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Comments: Shifting funds to support IPLAN project described in Item 2.4 of the Work Program.

ITEM 1.4 – GIS PROGRAM DEVELOPMENT (CG-P230)

ITD CONTACT: **Brian Emmen**
GIS Manager
(208) 332-7889

OBJECTIVES

- To review GIS program models in sister agencies and other state Departments of Transportation to see how they are structured for maximum success
- To develop strategy for application integration and deploying modular GIS components
- To negotiate with GIS vendor for modular software maintenance costs

METHODOLOGY

GIS is a long-term investment that matures over time. The turnaround for results may be longer term than initially expected. The GIS implementation plan will address the following technical, financial, and institutional considerations:

- Coordination with department strategic planning;
- System upgrade tactics and costs;
- Data requirements, standards and costs;
- Database design (road centerlines and cadastral land base);
- Initial data loading requirements and costs;
- System maintenance and upgrade tactics, timetable, and costs;
- System life cycle and replacement costs;
- Staffing requirements and costs;
- User training and costs;
- Education and skills development;
- Application development and integration timelines and costs – i.e. maintenance management system, pavement management system, Advantage system integrated with GIS capabilities; and
- Partnership with Department of Administration's Geospatial Office in the Transportation Technical Working Group and Inside Idaho.

FY2012 PRODUCTS

- Work to complete the Sharepoint 2010 GIS application.
- Staff a GIS office in support of the department's needs.
- Develop the geo-database transportation model.
- Work to develop web-based application like the UPlan model implemented in Utah.
- Conduct outreach to ITD districts and divisions to assure department needs are identified, coordinated, and met over the mid-term horizon.

GIS PROGRAM DEVELOPMENT BUDGET

Federal Aid	$122,400	+	**Match**	$30,600	=	**$153,000**

FY2012 CHANGES

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Comments: Shifting funds to support IPLAN project described in Item 2.4 of the Work Program.

ITEM 2.0 –PLANNING/PROGRAM MANAGEMENT (Unit 3971)

ITD CONTACT: **Erika Bowen**
Planning / Program Management Supervisor
Division of Highways
(208) 334-8552

MISSION

To manage integrated highway and corridor planning tools and processes for implementing short- and long-term transportation system planning goals.

Our mission is accomplished by:

- Coordinating specific short-, mid- and long-range transportation planning activities both within the Division of Highways and as appropriate throughout ITD;
- Coordinating with district senior transportation and modal planners on statewide highway plans, district plans, corridor studies, etc.;
- Developing effective analytical tools to support informed programming decisions; and
- Developing effective approaches to communicate planning activities and results with our transportation partners and customers.

ITEMS IN THIS SECTION

There are three sub-items in this section:

- Item 2.1 – Statewide Highway Planning
- Item 2.2 – Highway Classification and System Adjustments
- Item 2.3 – Statewide Planning and Project Management
- Item 2.4 – IPLAN Information Delivery System

TOTAL FY2012 HIGHWAY PLANNING BUDGET

Federal Aid	$615,900		**Match**	$154,000	= **$769,900**

ITEM 2.1 – STATEWIDE HIGHWAY PLANNING (FF-P801)

ITD CONTACT: **Sonna Lynn Fernandez**
Transportation Planning Coordinator
Planning / Program Management Section
Division of Highways
(208) 334-8209

OBJECTIVES:
Facilitate the coordination and integration of highway planning through regional, corridor, and statewide planning activities.

METHODOLOGY:
Develop a long-term (40 year) corridor planning vision for the department to define consistent roadway standards and levels of service for the entire state highway system.

Assess ways to incorporate economic analysis into ITD's transportation planning activities, and steps that are needed to develop data and analysis tools to generate inputs to the TREDIS model that ITD has purchased. Assess ITD travel demand forecasting needs to support statewide transportation planning activities, incremental steps for developing a functional statewide modeling system, and data and resource gaps for each development step. Identify and investigate lead economists or planners working on economic analysis in other agencies to obtain information about agency goals and policies that drive economic analysis and travel demand modeling; current tools; data used to feed into the models; performance measures for economic impact; and how economic information is communicated to citizens and elected officials.

Integrate the planning vision with GIS-based technology (IPLAN) to support infor med programming decisions based on real-time data and fiscal constraints with respect to identified "Corridors of Significance." It will be necessary to update the existing Corridor Planning Guidebook to include new ITD tools, processes and policies.

Identify and as appropriate, apply for projects and regional planning studies for corridors of national significance and other discretionary competitive programs.

Coordinate the usage of transportation development agreements between ITD districts and designated transportation and/or land-use agencies to identify how development activities that affect transportation facilities will be mutually addressed and supported by all parties. Develop a standard method by which to evaluate impacts of developments on transportation facilities. Establish a cost-sharing formula that determines proportionate fair-share fees for developments along state highways, to be incorporated into transportation development agreements.

Facilitate highway system planning by coordinating and participating in the Intermodal Working Group and other agency and interagency planning initiatives. Coordinate activities managed outside the Division of Highways Planning/Program Management Section to assure consistency and completeness.

Represent ITD's interests and participate on National Committees such as:

- American Association of State Highway and Transportation Officials – Subcommittee on Planning (SCOP);
- Transportation Research Board (TRB) – Statewide Multimodal Transportation Committee (ADA10) and

TRB Communications Coordination Council (CCC);

- Strategic Highway Research Program (SHRP II) Expert Task Groups and Work Panels (L05 and C01); and
- National Cooperative Highway Research Program (NCHRP)**.**

FY2012 PRODUCTS:

- Develop ITD's Planning Route Typologies.
- A technical memorandum of findings regarding ITD's technical and institutional readiness to incorporate economic analysis into transportation planning and related decision making activities.
- An economic analysis white paper and synthesis of State DOT approaches to economic analysis
- A technical memorandum outlining ITD's technical and institutional readiness to develop, maintain and apply a statewide travel demand model.
- Work with each District to update ITD's "Corridor Planning Guidebook."
- Standardize the process/usage of Land Use Development Agreements and establish a proportionate fair-share cost-sharing formula for developments.
- Maintain effective participation and representation on national committees.

STATEWIDE HIGHWAY PLANNING FY2012 BUDGET

Federal Aid	$143,500	**+**	**Match**	$35,900	**=** **$179,400**

FY2012 CHANGES

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Comments: (1) Included methodology and products associated with assessing ways to incorporate economic anlaysis and a statewide travel demand model into ITD's organization to meet strategic goals. (2) Removed methodology and products for the development of a GIS based corridor planning tool and moved it into the newly created Item 2.4.

ITEM 2.2 – HIGHWAY CLASSIFICATIONS AND SYSTEM ADJUSTMENTS (FB-P261)

ITD CONTACT: **Mary Lockwood**
Transportation Planning Specialist
Planning / Program Management Section
Division of Highways
(208) 334-8483

OBJECTIVES:
The Idaho Transportation Department is responsible for developing, monitoring and updating Idaho's functional classification of the entire highway system including highways on and off of the state system. While the Federal Highways Administration (FHWA) does not have an annual or other update cycle for functional classification, ITD has done a complete update every five years. As required by Board Policy B-09-02, in June of each year, the Director or his designee shall present an updated functional classification map of the State Highway System to the Board for approval. To meet this requirement, planning staff will:

- Review jurisdictional responsibilities to ensure that the level of responsibility continues to reflect the actual usage of the routes using departmental policies and procedures as a systematic guide to the implementation of these activities.

- Identify and establish defined systems of highways based on functional usage and jurisdictional responsibilities. Coordinate the update of the functional classification to ensure that changes made by local entities are reflected on the map.

- Manage ITD's Highways System Additions and Deletions process including access control determinations, road closures, and official minutes. Participate on the ITD Board's Systems Action Committee and lead the Subcommittee on State Highway System Adjustments.

In early 2012, the Census Bureau will release new urban and urbanized boundaries for each state. It is ITD's responsibility to review, and as appropriate, adjust boundaries and submit the departments proposed changes to FHWA for approval. The resultant changes to the State's existing functional classification will then be incorporated into the 2012 HPMS submittal, which is due to FHWA in June 2013.

METHODOLOGY:
Jurisdictional responsibilities are reviewed to ensure that the level of responsibility (state or local) continues to reflect the actual usage of the routes. After each census, local highway jurisdictions must update their functional classifications and in off-census years, have the opportunity to review existing functional classifications and make warranted revisions to their respective systems. Department staff reviews, updates, and transmits the requested version for official signatures, which is transmitted to the Federal Highway Administration (FHWA) for final approval.

Whenever a local highway jurisdiction proposes a change to the State Highway System (addition/removal/relocation/etc.), the Planning/Program Management Section shall refer the request to the Board Subcommittee on State Highway System Adjustments. Upon board subcommittee concurrence, the highway's operating and network characteristics shall be determined using a point rating criteria that has been approved by the Idaho Transportation Board. Rural routes shall be rated on statewide versus local use, vehicle

miles of travel index, average daily traffic, duplicate or parallel service, economics, importance to state highway system "grid," interstate system continuity, safety, and maintenance. For urban loops and spurs, the rating shall include average daily traffic, system proximity, population, and statutory goals.

FY2012 PRODUCTS:

- Update the 2020 Functional Classification Map based upon the 2010 Census.
- Work with each District Senior Transportation Planner to update the state rural functional classification system and incorporate the various state and local functional classification updates as submitted for the state highway system.
- Incorporate changes to access control and road closures to the functional classification map.
- Create a statewide state highways system ranking score map based to reflect Board Policy B0906.
- Update the urban boundaries and the associated functional classification based on the 2010 Census and incorporate into the 2012 HPMS.

HIGHWAY CLASSIFICATIONS AND SYSTEMS FY 2012 BUDGET

Federal Aid	$32,000	+	**Match**	$8,000	= **$40,000**

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	5/15/2012
Letter Sent to FHWA:	☒ YES	☐ NO	Date Sent:	5/18/2012
Approval Letter Received:	☒ YES	☐ NO	Date Received:	5/23/2012
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: Adjusted budget associated with Item 2.2, work products remain the same.

ITEM 2.3 – STATEWIDE PLANNING AND PROJECT MANAGEMENT (GA-G600)

ITD CONTACT: **Sonna Lynn Fernandez**
Transportation Planning Coordinator
Planning / Program Management Section
Division of Highways
(208) 334-8209

OBJECTIVES:

Incorporate standardized project management principles into ITD's culture to provide consistency in reporting, transparency in schedules, and better utilization of our resources to increase on-time delivery of projects appearing in the Statewide Transportation Improvement Program (STIP).

Facilitate informed programming decisions based on cash flow analysis forecasts and real-time overall portfolio health.

METHODOLOGY:

Assist in development of future ITD Project Management Academy versions and/or modules on advanced project management concepts.

Implement mandatory usage of Project Charters on all STIP projects to define project parameters (budget, time constraints, risks, resources, standards, etc) and track changes from programming through construction.

Partner with the Office of Communications to develop and manage a public involvement cost analysis tool similar to Utah's Project Outreach Planner (POP) to determine potential public involvement costs based on various impacts.

FY2012 PRODUCTS:

- Assist with the development of future ITD Project Management Academy curriculum
- Incorporate the Project Charter for all STIP projects.
- Develop a Public Involvement - Project Outreach Planner (POP) tool.

STATEWIDE PLANNING AND PROJECT MANAGEMENT FY2012 BUDGET

Federal Aid	$50,300	+	**Match**	$12,600	= $62,900

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	5/15/2012
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Approval Letter Received:	☒ YES	☐ NO	Date Received:	5/23/2012
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: Removed methodology and products for the development and administration of an internal ITD Project Management Certification Program. Adjusted budget to reflect change in work products.

ITEM 2.4 – IPLAN INFORMATION DELIVERY SYSTEM (GP-G601)

ITD CONTACT: **Mary Lockwood**
Transportation Planning Specialist
Planning / Program Management Section
Division of Highways
(208) 334-8483

OBJECTIVES:

ITD's Division of Highways (DOH) recognizes a need for bringing greater efficiency to the planning process by bringing information together in ways that allow for broad technical analysis with a large data set that is transparent, repeatable and supports decision makers by providing credible information.

IPLAN will be able to examine layers of data from contributing ITD departments and outside agencies in a GIS environment that is easily accessible to non-GIS experts. It is envisioned to be a tool for scenario building by layering on system performance measures, long-term system vision and financial forecasts.

IPLAN will be an interactive planning and analysis tool developed to assist and support informed discussions and decisions by DOH staff at all levels. It will facilitate synchronized planning efforts within ITD as well as with other state agencies, local governments, federal agencies, utility companies, etc.

IPLAN's web application will allow stakeholders to access data where they live their lives. Data will be compiled from a variety of sources and displayed spatially on an interactive map allowing users to view potential projects or studies and their adjacent resources. By organizing data in this format, data can be analyzed and displayed as meaningful information. Additional information (i.e. reports) will be linked spatially so all data associated with a project or study can be viewed on a single platform.

IPLAN will give ITD the platform for being transparent and accountable to the legislature, outside agencies, and the public with respect to our projects and our data.

METHODOLOGY:

IPLAN will be modeled after Utah Department of Transportation's (UDOT) uPlan to capitalize on their efforts and save both time and expenditures. A consultant will be hired to facilitate the assessment and development of creating the IPLAN architectural foundation (i.e. Phase 1). Phase 1 is anticipated to take 18 months to accomplish (beginning in May 2012) with the focus being on developing the application, creating a web "viewer", and having the capability to display information from the Project Scheduling System (PSS) and Project Tracking. The IPLAN implementation plan will address the following considerations:

- Coordination department wide to align with ITD's strategic planning goals;
- Data requirements, standards and business processes;
- System framework, architecture and current gap analysis;
- Database design (road centerlines and cadastral land base);
- System maintenance, upgrades and costs;
- Staffing requirements and costs;
- User training and costs;
- Partnership with FHWA and other outside agencies.

FY2012 PRODUCTS:

- Creation of an IPLAN Workgroup comprised of internal and external stakeholders
- Identify datasets, their characteristics and the business process to follow when being included into IPLAN, Phase 1.
- Establish an arcgis.com organizational site for ITD to beta test IPLAN functionality.
- Provide a "solution recommendation" and roadmap for the desired system architecture to be developed.

*Remaining products including architecting the system, spatially enabling Project Tracking and PSS datasets, defining and documenting desired services, developing the application, testing the application, making it "go-live", and user training will all be products of FY2013 that are needed to complete Phase 1 of IPLAN.

STATEWIDE HIGHWAY PLANNING FY2012 BUDGET

Federal Aid	$390,100	+	**Match**	$97,500	= **$487,600**

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	5/15/2012
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Approval Letter Received:	☒ YES	☐ NO	Date Received:	5/23/2012
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: Added Item 2.4 IPLAN – Information Delivery System to Work Program. Added year-end budget savings from the budgets from other units into Unit 3971 to fully fund the IPLAN consultant contract.

ITEM 3.0 –PAVEMENT ANALYSIS

ITD CONTACT: **Karen Strauss, PE**
Pavement Management Engineer
(208) 334-8268

MISSION

To assist decision makers to reach cost-effective transportation system improvement decisions.

Our mission is accomplished by providing accurate and timely information to internal customers, other government agencies, and the public by:

- Managing transportation-related databases;
- Integrating computer-assisted analysis with technical support;
- Using professional engineering and planning judgment; and
- Implementing the division's vision of transportation planning principles.

ITEMS IN THIS SECTION

There are three sub-items in this section:

- Item 3.1 – Assess Condition of the State Highway System
- Item 3.2 - Analyze and Model Transportation Systems
- Item 3.3 – Report Transportation Data

TOTAL PLANNING SERVICES BUDGET

Federal Aid	$168,600	**+**	**Match**	$42,200	**=**	**$210,800**

ITEM 3.1 – ASSESS CONDITION OF THE STATE HIGHWAY SYSTEM (FH-P113)

ITD CONTACT: **Karen Strauss**
Pavement Management Engineer
(208) 334-8268

OBJECTIVES

- Inventory a statistical sampling of Idaho's roadways.
- Assess the pavement condition of the State Highway System and other select roadways.
- Asses pavement projects programmed for the year and decide if they are complete and should be recorded in the construction history.

METHODOLOGY

The Highway Performance Monitoring System (HPMS) requires an inventory of roadway features and an assessment of pavement conditions for a sampling of all Idaho's roadways, both for state highways and off-state roads. The pavement management engineer inventories Idaho's state highway system roadways each year for HPMS.

Additionally, ITD requires an annual pavement condition survey, by which the pavement management engineer assesses the cracking, roughness and rutting of the entire State Highway System. The cracking monitoring is performed by the pavement management engineer. Roughness and rutting monitoring are performed by software administered by the Roadway Data Section. Construction history is confirmed and new projects are added to the history upon completion.

FY2012 PRODUCTS

- Inventory of a sampling of the state's roadways.
- Updated pavement history file and assessment of cracking on the State Highway System.

ASSESS CONDITION OF THE STATE HIGHWAY SYSTEM BUDGET

Federal Aid	$46,400	+	**Match**	$11,600	= **$58,000**

FY2012 CHANGES

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Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: Shifting funds from Section 3.3 to better reflect actual costs.

ITEM 3.2 – ANALYZE AND MODEL TRANSPORTATION SYSTEMS (FH-P113)

ITD CONTACT: **Karen Strauss, PE**
Pavement Management Engineer
(208) 334-8268

OBJECTIVES

- Manage the Pavement Management module of Idaho Transportation Department's Transportation Asset Management System (TAMS).
- Provide statistical data for Idaho's highways, roads, and streets.
- Calibrate the prediction modeling analysis engine in TAMS to predict accurate pavement deterioration or improvement.
- Identify needed projects and related costs for transportation facilities improvement.
- Updated STIP through TAMS analysis.

METHODOLOGY

In 2010, ITD purchased a new Transportation Asset Management System (TAMS). The original components of this system were a Pavement Management System (PMS) and a Maintenance Management System (MMS). The pavement management engineer is the administrator of the PMS portion, providing training on the module, data management, analysis forecasting, reporting, and calibration.

Through the use of this system, the pavement management engineer provides statistics and analysis forecasting for Idaho's state highway system. The software contains a powerful analysis engine that predicts the deterioration of ITD's pavements based on several factors. The pavement management engineer calibrates this engine annually and as needed to ensure correct results. This system provides project recommendations- location, cost, and treatment- for all of Idaho's state roadways.

TAMS also added functionality to the Statewide Transportation Improvement Program (STIP). In coming years, the STIP program will be uploaded into TAMS and users in all districts will have access to the program and the ability to manipulate funding allocation, project types and location, and several other factors in infinite "what-if" scenarios. Once the users have run several analysis scenarios and have manipulated the STIP program to better fit their needs, it gets exported out of TAMS and back to Budget and Program Management for their implementation.

FY2012 PRODUCTS

- Analysis of the entire State Highway System's profile data and visual surface condition data.
- System-wide project recommendations for the next 5 years (updated STIP).
- An accurate prediction of how our spending will impact pavement condition in the future.

ANALYZE AND MODEL TRANSPORTATION SYSTEMS BUDGET

Federal Aid	$119,400	+	**Match**	$29,800	= **$149,200**

FY2012 CHANGES

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Comments: Shifting funds from Section 3.3 to better reflect actual costs.

ITEM 3.3 – REPORT TRANSPORTATION DATA (FL-P280)

ITD CONTACT: **Karen Strauss, PE**
Pavement Management Engineer
(208) 334-8268

OBJECTIVES

- Provide accurate, consistent and objective information for use in making cost-effective decisions regarding pavement rehabilitation and reconstruction.
- Provide information to decision makers about network level transportation systems.
- Provide the annual publication of the Pavement Performance Report, detailing the past and present condition of the state highway system.
- Maintain and update the division's documents, reports, plans, and general information on the internet and intranet.
- Provide automated reports in TAMS for all users to obtain data from the system quickly and accurately.

METHODOLOGY

Pavement Analysis personnel answer numerous inquiries about ITD's transportation systems: the State Highway System, local agencies' roadways, and other transportation modes. This information is valuable to decision makers facing difficult transportation issues. TAMS has provided a way for the user to obtain this information him or herself by use of the system's reporting tool. The pavement management engineer creates these reports upon request and releases them to users that request access.

The internet is an effective tool to provide planning data to our customers. The information on the division's internet site must be kept current to generate confidence in its quality. The effort to maintain and update our internet site is an ongoing and critical task. The work requires coordination with division personnel to obtain the most current information, prepare it in internet format, and post it to our site.

FY2012 PRODUCTS

- Provide highway data to consultants authoring studies for the department.
- Prepare and release pavement management reports.
- Continue updating the division's internet/intranet site with the most recent information.
- Accurately answer inquiries from the Legislature, executive managers, and the public.

REPORT TRANSPORTATION DATA BUDGET

Federal Aid	$2,900	+	**Match**	$700	=	**$3,600**

FY2012 CHANGES

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Letter Sent to FHWA:	☒ YES	☐ NO	Date Sent:	5/18/2012
Approval Letter Received:	☒ YES	☐ NO	Date Received:	5/23/2012
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: Shifting funds to support IPLAN project described in Item 2.4 of the Work Program, and to Items 3.1 and 3.2.

ITEM 4.0 – ROADWAY DATA

ITD CONTACT: **Glenda Fuller**
Roadway Data Manager
(208) 334-8217

MISSION

To provide efficient collection of valid statewide transportation data in support of other systems within the department. Collect, analyze, report, and retain statewide traffic and roadway data.

Our mission is accomplished by:

- Providing accurate and timely information to ITD, the public, the private sector, and other government agencies;
- Collecting data for the department's Pavement and the Congestion Management systems; and
- Managing traffic-related databases.

ITEMS IN THIS SECTION

There are three sub-items in this section:

- Item 4.1 – Vehicle Volumes, Classification, Weight, and Characteristics
- Item 4.2 - State Highway Systems Inventory
- Item 4.3 – Highway System Monitoring & Reporting

TOTAL ROADWAY DATA BUDGET

Federal Aid	1,235,100	**+**	**Match**	$308,800	**=**	**$1,543,900**

ITEM 4.1 – VEHICLE VOLUMES, CLASSIFICATION, WEIGHT, AND CHARACTERISTICS (DA-P241, DA-P243)

ITD CONTACT: **Scott Fugit**
Research Analyst Principal
(208) 334-8207

OBJECTIVES

- Obtain traffic volumes and vehicle-classification counts statewide and determine the proportion and type of vehicles in a sample traffic stream.
- Maintain historical traffic-characteristic files and make them available for current and forecasted traffic analysis.
- Process traffic data of all types in support of other data-management systems.
- Review vehicle classification data. Develop statistics and reports to be used for highway location and design, evaluation of program priorities, evaluation of highway accidents, rural and urban statistical traffic assignments, travel trends, highway finance, and land developments.
- Work with annual data from 215 permanently installed Automatic Traffic Recorders (ATRs) with 183 on the state highway system and 32 at off-system sites. Develop traffic segment flow conclusions and provide seasonal variation factors, design hour volumes, and reasonable sampling and screen line data.
- Develop relevant statistics from portable counters used as required for intersection turning movements and a broad range of other traffic data collection activities. Analyze vehicle classifications, and traffic-volume flow based on portable counter data.
- Collect vehicle weight, axle spacing, speed, classification, and bumper-to-bumper lengths from a representative sample portion of the traffic stream.
- Collect and distribute Equivalent Single Axle Loadings (ESAL) information as well as the newer Load Spectra Data. This data is used for pavement-management purposes, roadway design and location planning, traffic operations and regulations, and highway funding requests.

METHODOLOGY

The Roadway Data Section collects the traffic volume, vehicle classification, and truck weight data via the use of permanent and portable traffic recording equipment. Mainframe and desktop applications allow for the analysis and development of necessary statistics and traffic flow patterns. Receive, review, analyze, and process the field data for use by the department and private sector. Interface with mainframe support personnel to maintain ongoing applications.

Maintain and operate 25 permanent Weigh-In-Motion (WIM) systems to collect classification and axle-loading data throughout Idaho. Perform regular maintenance functions at these sites including system calibration, electronics and telecommunications troubleshooting, plus sensor and loop repairs. An office employee handles all data processing, analysis, and reporting, plus federal data submissions. We also maintain and constantly update a website containing current and historical traffic survey related monthly and annual reports.

FY2012 PRODUCTS

- Generate reports and data sets from traffic counts including one-third of the HPMS and Principle Arterial System/National Highway System (PAS/NHS) sample sections.
- Review and collate classification data on selected HPMS sample sections for 48-hour periods.
- Analysis and reports related to equipment verification or in conjunction with other studies.
- Compile statistics and data sets to be used with FHWA submissions as part of ITD's annual programs.
- Assist in equipment and data collection systems review to assess annual performance for accuracy.
- Install permanent WIM systems in several statewide locations as replacements or new sites.
- Perform several major repairs and sensor installations on exiting SHRP/LTPP WIM systems.
- Continue the upgrading of the Roadway Data Section portion of ITD's website.
- Complete the federally mandated data submittal to the SHRP/LTPP regional office and the FHWA in Washington, D.C.

- Assist in various WIM data-related studies involving permanent system data and reports in conjunction with FHWA, private contractors and several research institutions.
- Participate in field system equipment reviews and meet with vendors to review new data collection systems and evaluate performance, data accuracy, and software.
- Contribute to MEPDG pavement design models as requested with traffic load related data inputs.

VEHICLE VOLUMES, CLASSIFICATION, WEIGHT, AND CHARACTERISTICS BUDGET

Federal Aid	$921,200	**+**	**Match**	$230,300	**=** **$1,151,500**

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	5/15/2012
Letter Sent to FHWA:	☒ YES	☐ NO	Date Sent:	5/18/2012
Approval Letter Received:	☒ YES	☐ NO	Date Received:	5/23/2012
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: Shifting funds to support IPLAN project described in Item 2.4 of the Work Program.

ITEM 4.2 – STATE HIGHWAY SYSTEM INVENTORY (FJ-P760, FK-P661)

ITD CONTACT: **Glenda Fuller**
Roadway Data Manager
(208) 334-8217

OBJECTIVES

- Obtain pavement friction values, roughness, rutting, cracking, heading, grade, cross slope, and GPS coordinate information for the state highway system.
- Collect pavement condition data on the principal arterial highways and the rural minor arterial sample sections for the HPMS over a two-year period.
- Take digitized images (perspective and pavement) of the state highway system.
- Inventory all the geometric data needed for HPMS on/off the state highway system.

METHODOLOGY

Roughness, rutting, and cracking information are obtained annually in at least one direction of the state highway system for use by the department's Pavement Management System. Pavement condition data is collected over a two-year period on the principal arterial highways and the rural minor arterial sample sections for the HPMS. Digitized images of the highways assist management, engineers, and technicians in analysis and decision-making. The pavement friction values are collected annually in both directions on the interstate routes and on a two-year cycle on the rest of the state highway system. Pavement surface friction is an indication of safety of vehicles on highways because it is a measure of the force that resists the sliding of vehicles tires on the pavement.

FY2012 PRODUCTS

- Collect roughness, rutting, cracking, heading, grade, cross-slope and GPS coordinate information for the state highway system in one direction.
- Take digitized images of the state highway system.
- Collect data for the pavement history file.
- Collect, process, and publish pavement friction values for the interstates and half of the remaining state highway system.
- Supply data to the TAMS system.

STATE HIGHWAY SYSTEM INVENTORY BUDGET

Federal Aid	$235,100	+	**Match**	$58.800	= **$293,900**

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	5/15/2012
Letter Sent to FHWA:	☒ YES	☐ NO	Date Sent:	5/18/2012
Approval Letter Received:	☒ YES	☐ NO	Date Received:	5/23/2012
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: Reducing funding to reflect ITD allocation of funds to the Roadway Data Unit.

ITEM 4.3 – HIGHWAY SYSTEMS MONITORING AND REPORTING (FK-P111)

ITD CONTACT: **Dorothy Aydelotte**
Mathematical Analyst
(208) 334-8205

OBJECTIVES

- Inventory a statistical sampling of Idaho's roadways.
- Process roadway data using HPMS software.
- Improve data availability by implementing analysis and reporting tools.
- Submit an annual HPMS report to the FHWA for further processing and production of national highway statistical reports and other special reports to Congress and the public.
- Maintain and update the division's documents, reports, plans, and general information on the internet and intranet.
- Add new documents, reports, and plans to the division's internet/intranet sites as they are published.

METHODOLOGY

Highway Performance Monitoring System (HPMS) requires an inventory of roadway features and an assessment of pavement conditions for a sampling of all Idaho's roadways. This data is then assembled into a report for the FHWA and is used to answer a myriad of data information requests from ITD employees, legislators, consultants, and the general public.

The internet is an effective tool to provide planning data to our customers. The information on the division's internet site must be kept current to generate confidence in its quality. The effort to maintain and update our internet site is an ongoing and critical task. The work requires coordination with division personnel to obtain the most current information, prepare it in internet format, and post it to our site.

FY2012 PRODUCTS

- Inventory a sampling of the state's roadways.
- Update HPMS software to new submittal format.
- Improve the HPMS data collection and management processes to increase the accuracy and reliability of the data.
- Maintain and make needed modifications to the data collection software used for field collection.
- Design and maintain a web interface for city road mileages.
- Continue to refine the method of gathering HPMS data from local jurisdictions to make it more effective.
- Supply data to and furnish quality control for data in the TAMS system.
- Provide highway data to consultants authoring studies for the department.
- Answer inquiries from the Legislature, executive managers, and the public.
- Continue updating the division's internet/intranet site with the most recent information.

HIGHWAY SYSTEM MONITORING & REPORTING BUDGET

Federal Aid	$78,800	+	**Match**	$19,700	= **$98,500**

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	5/15/2012
Letter Sent to FHWA:	☒ YES	☐ NO	Date Sent:	5/18/2012
Approval Letter Received:	☒ YES	☐ NO	Date Received:	5/23/2012
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: Reducing funding to reflect ITD allocation of funds to the Roadway Data Unit.

ITEM 5.0 – TRANSPORTATION PERFORMANCE

ITD CONTACT: **Randy Kyrias**
Transportation Performance Administrator
(208) 334-8281

MISSION

Our mission is to ensure the effective use of federal, state, and local transportation funds and enhance the mobility, safety, and economic vitality of Idaho's citizens.

Our mission is accomplished by:

- Mobility management and coordination of transportation services/systems;
- grant administration and management; and
- program development, planning and coordination.
- Leading the realignment of program goals and objectives with the Long Range Transportation Plan objectives to improve mobility, enhance safety, and support economic vitality.

ITEMS IN THIS SECTION

There are 5 sub-items in this section:

- Item 5.1 – Transportation Enhancement Planning and Management
- Item 5.2 – Program Development, Planning and Coordination
    - Item 5.2.1 - Bicycle and Pedestrian
    - Item 5.2.2 - Rail and Freight
    - Item 5.2.3 – Transportation Performance Systems Planning
- Item 5.3 – Scenic Byways
- Item 5.4 – Congestion Mitigation and Air Quality
- Item 5.5 – Performance Management

TOTAL TRANSPORTATION PERFORMANCE BUDGET

Federal Aid (SPR)	$357,200	+	**Match**	$89,300	=	**$446,500**
Federal Aid (non-SPR)	$376,000	+	**Match**	$94,000	=	**$470,000**

ITEM 5.1 – TRANSPORTATION ENHANCEMENT PLANNING AND MANAGEMENT (TE-P802)

ITD CONTACT: **Maureen Gresham**
Bicycle and Pedestrian Planner
(208) 334-8281

OBJECTIVES

- Coordinate existing project activities with local project sponsors, primarily bidding, construction, and project closeout.
- Administer existing grants within ITD's project tracking systems.
- Evaluate and improve the Transportation Enhancement program based on anticipated changes to the next highway transportation bill reauthorization.
- Lead the realignment of program goals and objectives with the Long Range Transportation Plan objectives to improve mobility, enhance safety, and support economic vitality.

METHODOLOGY

Monitor project activities with monthly communications with local project sponsors, and coordinate with district project managers on project implementation.

FY2012 PRODUCTS

- Completed projects

TRANSPORTATION ENHANCEMENT PLANNING BUDGET

Federal Aid	$0	+	**Match**	$0	=	**$0**

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 5.2 –PROGRAM DEVELOPMENT, PLANNING AND COORDINATION (FI-P802, FR-P802, FN-P801)

ITD CONTACT: **Randy Kyrias**
Transportation Performance Administrator
(208) 334-8272

OBJECTIVES

- Support the goals of the long-range transportation plan.
- Develop and promote multi-modal and co-modal mobility opportunities that cut across multiple and/or diverse program areas.
- Develop and implement activities identified as part of the individual systems plans and programs.
- Maintain existing partnerships with organizations that focus on multi-modal connectivity.
- Provide technical and resource assistance for planning, project design, and program development.
- Improve communications and coordination between mobility partners, including ITD, MPO's, CTAI, local advocacy groups, and I-Way stakeholders at the local mobility management network and District levels.
- Monitor statewide needs for education, encouragement, and enforcement assistance.
- Seek new partnerships in addressing transportation issues.
- Participate in training to increase knowledge and skills.
- Research and pursue new formula-based and discretionary funding opportunities for projects to develop and implement program goals.
- Inform ITD planners, management and transportation stakeholders about current developments.
- Review and update existing plans (rail and bicycle/pedestrian).
- Lead the realignment of program goals and objectives with the Long Range Transportation Plan objectives to improve mobility, enhance safety, and support economic vitality through a policy plan and other programmatic efforts.

METHODOLOGY

Develop planning activities framework guides that define and develop multi-modal program opportunities based on a livability/sustainability platform. Participate in/with and/or provide support for other ITD staff/initiatives, highway planning initiatives, design reviews, etc. Assess current ITD practices, policies, and programs as related to mobility. Partner with key stakeholders including ITD HQ and District staff, CTAI and MPO's. Use variety of communication techniques to raise awareness of the various modal programs, funding/technical assistance, benefits, and activities conducted throughout the state. Identify and support champions to act as key messengers. Research innovative and best practices related to mobility. Provide staff support for committees including the Idaho Mobility Council, the Rural Economic Development, IRTI, HEAL, and Integrated Freight Transportation Program as well as internal ITD advisory committees including the Bicycle and Pedestrian Advisory Committee. Assess and identify structures and processes that coordinate program advisory committees and councils. Conduct planning level analysis of systems, data and policies for freight, rail and bicycle/pedestrian movement.

FY2012 PRODUCTS

- Communications and Stakeholder Outreach Plan
- Website and social media outlet updates
- Modal Program Guide(s)
- State Rail Freight Study and Rail Plan
- Coordinated State Transportation Policy Plan
- Tool kits (funding guide, educational videos/presentations, best practices guides)
- Data collection plans

PROGRAM DEVELOPMENT, PLANNING, AND COORDINATION BUDGET

Federal Aid	$167,900	+	**Match**	$42,000	=	**$209,900**
Federal Aid (FRA)	$200,000	+	**Match**	$50,000	=	**$250,000**
Federal Aid (non-SPR)	$176,000	+	**Match**	$44,000	=	**$220,000**

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	8/8/2012
Letter Sent to FHWA:	☒ YES	☐ NO	Date Sent:	8/14/2012
Approval Letter Received:	☐ YES	☐ NO	Date Received:	
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: Work Plan amended to add $470,000 for development of an updated Rail/Freight plan and a Statewide Policy Plan. SPR funds will not be used for the projects. Funds will come from an FRA grant and STP & NHS $ from completed planning/tech transfer projects. This program was amended October 3, 2011 and approved October 21,2011 by FHWA.

The program was further amended on August 8, 2012 to better reflect current use of funding. Approval is pending from FHWA. $4,900 shifted to Item 5.3.

ITEM 5.3 – SCENIC BYWAYS (FP-P803)

ITD CONTACT: **John Krause**
Mobility Program Manager/Scenic Byway Coordinator
(208) 334-8292

OBJECTIVES

- Manage program delivery and annual project development application process.
- Identify and implement initiatives to promote use of byways with scenic, historic, cultural, etc. values and to leverage the tourism aspect of these byways to improve the economic vitality of communities and the state.
- Promote and market Idaho's scenic byway system through various media including printing and distribution of brochure materials and video content.
- Lead the realignment of program goals and objectives with the Long Range Transportation Plan objectives to improve mobility, enhance safety, and support economic vitality.

METHODOLOGY

Provide centralized resources for program information and support. Coordinate the application process for the Scenic Byway and oversee the application process. Partner with key stakeholders including ITD HQ and District staff, the Idaho Department of Commerce Division of Tourism, local and regional tourism associations, CTAI and MPO's to develop short and long term statewide, regional and local strategies to improve economic vitality. Develop and administer program of projects for current funding awards. Oversee internal and external information management and performance measurement. Realign and facilitate the involvement of key stakeholders through a Scenic Byway Advisory Committee (SBAC) structure and processes. Evaluate programs in meeting statewide strategic goals for efficiency, customer service, partnerships, and performance.

FY2012 PRODUCTS

- Deliver prior year funded projects on schedule.
- Revised SBAC charter and guidelines.
- Annual submittal guide.
- Project list summary and review.

SCENIC BYWAYS BUDGET

Federal Aid	$126,200	+	**Match**	$31,500	=	**$157,700**

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	8/8/2012
Letter Sent to FHWA:	☒ YES	☐ NO	Date Sent:	8/14/2012
Approval Letter Received:	☐ YES	☐ NO	Date Received:	
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: Dollar amount increased by $6,000 to cover anticipated costs. Funds shifted from Items 5.2 and 5.5. of project.

ITEM 5.4 – CONGESTION MITIGATION AND AIR QUALITY (CMAQ) (FP-P804)

ITD CONTACT: **Ted Vanegas**
Senior Transportation Planner
(208) 334-7823

OBJECTIVES

- Manage program delivery and annual project development application process.
- Lead the realignment of program goals and objectives with the Long Range Transportation Plan objectives to improve mobility, enhance safety, and support economic vitality.

METHODOLOGY

Provide centralized resources for program information and support. Coordinate the application process for the CMAQ program and oversee the application process. Deliver scheduled program on time. Oversee internal and external information management. Involve key stakeholders in the process through a CMAQ advisory committee. Evaluate programs in meeting statewide strategic goals for efficiency, customer service, partnerships, and performance. Collect program data and provide data responses on programs as requested

FY2012 PRODUCTS

- None.

PERFORMANCE MANAGEMENT BUDGET

Federal Aid	$0	+	Match	$0	=	$0

FY2012 CHANGES

Amendment Added:	☐ YES ☐ NO		Date Amended:
Letter Sent to FHWA:	☐ YES ☐ NO		Date Sent:
Approval Letter Received:	☐ YES ☐ NO		Date Received:
Removed from Program:	☐ YES ☐ NO		Date Removed:
Comments:			

ITEM 5.5 – PERFORMANCE MANAGEMENT (FG-P801)

ITD CONTACT: **Brian Shea**
Research Analyst
(208) 334-8828

OBJECTIVES

- Provide assistance to Executive Management, the Transportation Performance Administrator, and staff in ensuring ITD is meeting its strategic planning goals, performance measures, and continued process improvement.
- Lead the realignment of program goals and objectives with the Long Range Transportation Plan objectives to improve mobility, enhance safety, and support economic vitality.

METHODOLOGY

Develop system recommendations, structures and reporting methods for meeting the strategic planning goals, performance measures and process improvement. Monitor and evaluate operations, programs, processes and/or practices for quality and effectiveness. Consult with Executive Management, Transportation Performance Administrator, Division and Section Managers, and other ITD employees to develop improvements, create, and maintain quality standards. Develop and implement effective communication materials and tools to share performance information throughout the department and with external stakeholders. Identify, analyze, and evaluate organizational performance and areas of performance risk within the department and work with department personnel to implement performance measures necessary to close the identified risks. Alert Executive Management to quality, schedule, and delivery risks that could affect performance. Seek opportunities for cooperation, collaboration, partnership and integration with other programs and efforts in order to build working relationships with internal and external stakeholders.

FY2012 PRODUCTS

- Communication materials and tools
- Monthly performance reports

PERFORMANCE MANAGEMENT BUDGET

Federal Aid	$63,100	+	**Match**	$15,800	=	**$78,900**

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	8/8/2012
Letter Sent to FHWA:	☒ YES	☐ NO	Date Sent:	8/14/2012
Approval Letter Received:	☐ YES	☐ NO	Date Received:	
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: Dollar amount is amended to better reflect actual cost of project. $1,100 shifted to Item 5.3.

ITEM 6.0 – TRANSPORTATION INVESTMENT PROGRAMMING

ITD CONTACT: **Dave Amick**
Transportation Investment Program Manager
(208) 334-8264

OBJECTIVES

- Transportation program performance policies and procedures are established and communicated to multi-modal transportation program and project managers.
- Transportation program performance goals, investment strategies and program plans are integrated with strategic and long range transportation plans.
- Statewide transportation program management funding, project information and support systems are provided for use by the department and other transportation partners participating in the department's investment programs, and strategic and long range plans.
- Project outreach planning tool to assist ITD staff in the public involvement process.

METHODOLOGY

- Provide analysis and technical support in the development and implementation of Idaho Transportation Board and management policies regarding the funding and management of the department's capital investment programs.
- Annually update the Idaho Transportation Board approved multi-modal Idaho Transportation Investment Program (ITIP) and the ITIP federal approval document for public review and FHWA/FTA approval.
- Integrate ITIP public involvement efforts with ITD's organization wide public involvement plans in cooperation with the ITD Public Affairs Office using the departments adopted *Public Involvement Process Plan*.
- Combine the department's various board-approved multi-modal transportation programs into an overall transportation investment strategy consistent with the department's strategic and long-range transportation plans.
- Integrate funding from federal, state, local, and other sources with the department's budgetary and financial systems.
- Fully integrate the department's program funding, project budgeting and scheduling systems with the department's budgeting and financial management systems under a single integrated financial management system.
- Improve the department's capability to provide timely and accurate project budgeting, funding, and financial performance information statewide to department project managers, transportation stakeholders, and participating transportation program managers outside the department.
- Idaho Transportation Board presentations are made monthly. Ongoing program policy and management meetings occur with transportation stakeholders, transportation program managers, project managers, and other transportation program partners.

FY2012 PRODUCTS

- Publish and provide updated multi-modal STIP to stakeholders and public that optimizes transportation program performance. $15,000 is budgeted for required advertising and printing.
- Update funding plans to support the Idaho Transportation Board's transportation program policies and investment strategies for state, local and other transportation agencies.
- Provide management approved budgeting guidance to the department's transportation program and project managers.
- Provide policy guidance, program coordination, technical support, and information systems to transportation program managers outside the department, including MPOs, the Transportation Management Area (TMA), LHTAC, and Federal Lands Tri-Agency Group.
- Using federal laws and board policy transportation funding estimating procedures and authorized funding, tracking systems are established and maintained, including funding sub-allocations.

- Maintain a system for tracking project obligations and balances.
- Maintain current and historical records of project scope, budget and funding decisions.
- Minimum annual published documents include:
  1. Idaho Transportation Investment Program Update Packet (February);
  2. Highway Development Draft Program Workbook and Board Presentation (June);
  3. Final Recommended & Board Approved Idaho Transportation Investment Programs (September/October) as well as updates as needed throughout the year; and
  4. Transportation program system user manuals and other system documentation.
- Provide project data and program funding balance information to be incorporated into the Draft ITIP and final Approved ITIP federal approval document submitted to FHWA and Federal Transit Administration (FTA).
- Training and workshops are provided in transportation finance, transportation programming systems, and transportation program performance policy.
- Systems and analysis for the measurement and reporting of the performance of transportation program plans and respond to ad hoc request for analysis and information.
- Participate in state and national efforts addressing transportation funding issues.
- GARVEE support.
- Develop project outreach planning tool to assist ITD staff in making decisions about public involvement needed in the project development process. The tool helps analyze the appropriate public involvement level based on a variety of factors. A total of $76,200 is being budgeted for this project in FY2012, with $65,000 coming from OTI and the remainder from Planning/Programming Management.

BUDGET

Federal Aid	446,600	+	**Match**	$111,600	=	**$558,200**

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

Part B:

SPR

RESEARCH

Work Authority F12901R, Key #11203

ITEM 7.0 – RESEARCH

Work Authority F12901R, Key # A011(203)

ITD CONTACT: **Ned Parrish**
Research Manager
(208) 334-8296

OBJECTIVES

- To support research, development, and technology transfer activities addressing the department's strategic goals and initiatives.
- To enhance ITD's ability to deliver efficient and effective transportation services.
- To offer practical solutions for problems facing the Department.
- To develop new tools/technologies and facilitate their implementation.

PROGRAM RESPONSIBILITIES

- To administer federal SPR (State Planning & Research) funds for ITD research, development, and technology transfer.
- To coordinate Department involvement in multi-state pooled fund projects.
- To identify ITD research needs and priorities.
- To help staff locate transportation research and information.
- To oversee ITD research projects performed by universities and consultants.
- To oversee Idaho Technology Transfer Center (T^2 Center) funding.
- To coordinate ITD involvement in national and regional transportation research with TRB, AASHTO, Region X Transportation Consortium, and other organizations.
- To coordinate, publish and maintain the annual work program for planning and research.

ITEMS IN THIS SECTION

There are nineteen sub-items in this section:

- Item 7.1 – National Cooperative Highway Research Program (NCHRP)
- Item 7.2 – TRB and AASHTO Coordination
- Item 7.3 – AASHTO Programs, Partnerships and Groups
- Item 7.4 – National and Regional Pooled Fund Projects
- Item 7.5 – 2009 Cooperative Research Projects (University of Idaho)
- Item 7.6 – 2010 Cooperative Research Projects (University of Idaho)
- Item 7.7 – 2011 Cooperative Research Projects (University of Idaho)
- Item 7.8 – 2011 Cooperative Research Projects (Boise State University)
- Item 7.9 – 2011 Cooperative Research Projects (Montana State University)
- Item 7.10–2011 Cooperative Research Projects (Washington State University)
- Item 7.11–2011 Cooperative Research Projects (Private Consultants)
- Item 7.12–2012 Cooperative Research Projects (Private Consultants)
- Item 7.13–2012 Cooperative Research Projects (Washington State University)
- Item 7.14–2012 Cooperative Research Projects (University of Idaho)
- Item 7.15–2012 Cooperative Research Projects (Montana State University)
- Item 7.16–2012 Cooperative Research Projects (Boise State University)
- Item 7.17-2012 Cooperative Research Projects within ITD
- Item 7.18-2012 Cooperative Research Projects (Claremont Graduate University)
- Item 7.19-2012 Cooperative Research Projects (Private Consultants)

RESEARCH BUDGET

Federal Aid	$1,214,200	+	**Match**	$154,500	=	**$1,368,700**

ITEM 7.1 – NCHRP PROGRAM (2012)

IDENTIFICATION: TPF-5(412)

Title: National Cooperative Highway Research Program (NCHRP)
Research Agency: Various, coordinated by the Transportation Research Board
Work Plan Approval: Annual Agreement

OBJECTIVE

- To provide for the annual NCHRP assessment to fund the national research program.

PROPOSED ACTIVITY – FY2012

- Continue national highway research program and initiate new projects as approved by the American Association of State Highway and Transportation Officials (AASHTO) Standing Committee on Research.
- Ned Parrish, Research Manager, is the ITD Project Manager.

COST

- FY2012: $297,300 (100% Federal SPR)

NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP)

Federal Aid	$297,300	+	Match	0	=	$297,300

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	8/8/2012
Letter Sent to FHWA:	☒ YES	☐ NO	Date Sent:	8/14/2012
Approval Letter Received:	☐ YES	☐ NO	Date Received:	
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: Reduced amount budgeted to more accurately reflect final payment amount. The remaining funds are being shifted to meet pooled fund commitments.

ITEM 7.2 – TRB AND AASHTO PROGRAMS (2012)

IDENTIFICATION:

Title:	Expenses for Annual Transportation Research Board (TRB) and AASHTO Research Advisory Committee (RAC) Meetings
Research Agency:	ITD
Work Plan Approval:	Annual Meetings

OBJECTIVES

- To provide travel funds for research personnel to attend the above listed TRB and AASHTO meetings. The Research Program Manager serves as the department's state representative to the TRB and AASHTO RAC

PROPOSED ACTIVITY – FY2012

- Participate in TRB and AASHTO meetings regarding transportation research, development, and technology transfer.
- Ned Parrish, Research Manager, is the ITD Project Manager.

COST

- FY2012: $1,900 ($1,500 Federal SPR (80/20))

TRB AND AASHTO PROGRAMS

Federal Aid	$1,500	+	Match	$400	=	$1,900

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	8/8/2012
Letter Sent to FHWA:	☒ YES	☐ NO	Date Sent:	8/14/2012
Approval Letter Received:	☐ YES	☐ NO	Date Received:	
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: Budget reduced to reflect actual costs.

ITEM 7.3– AASHTO PROGRAMS, PARTNERSHIPS, AND GROUPS (ONGOING)

IDENTIFICATION:

Title: Support for AASHTO Technical Service Programs
Research Agency: AASHTO
Work Plan Approval: Ongoing Programs

OBJECTIVES

This item provides financial support for several AASHTO technical service programs, including:

- National Transportation Product Evaluation Program (NTPEP).
- AASHTO Product Evaluation List Program (APEL).
- Technology Implementation Group (TIG).
- Snow and Ice Pooled Fund Cooperative Program (SICOP).
- Advance Equipment Technology Operations (AETO) or Equipment Management Technical Services Program (EMTSP).
- Transportation System Preservation Technical Service Program (TSP^2).
- Load and Resistance Factor Design (LRFD) Bridges and Structures Specification maintenance.
- Development of AASHTO Materials Standards (DAMS).

PROPOSED ACTIVITY – FY2012

- Provide continued support for NTPEP, APEL, TIG, SICOP, AETO, TSP^2, LRFD, and DAMS programs.
- Bryan Martin, Quality Product and Project Development Engineer, is the ITD Project Manager for NTPEP and APEL.
- Ned Parrish, Research Manager, is the ITD Project Manager for TIG.
- Brent Jennings, Highway Safety Manager, is the ITD Project Manager for SICOP.
- Steve Spoor, Maintenance Program Manager, is the ITD Project Manager for AETO.
- Brent Jennings, Highway Safety Manger, and Mike Santi, Materials Engineer, are the ITD Project Managers for TSP^2 .
- Matt Farrar, State Bridge Engineer, is the ITD Project Manager for LRFD.
- Mike Santi, Materials Engineer, is the ITD Projects Manager for DAMS.

COST

- FY2012: $52,900 ($42,320 Federal SPR (80/20))

AASHTO ENGINEERING TECHNICAL SERVICE PROGRAMS

Federal Aid	$45,400	+	Match	$11,300	=	$56,700

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	5/15/2012
Letter Sent to FHWA:	☒ YES	☐ NO	Date Sent:	5/18/2012
Approval Letter Received:	☒ YES	☐ NO	Date Received:	5/23/2012
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: Increased to reflect amount actually invoiced by AASHTO for the Technical Service Programs.

ITEM 7.4 – NATIONAL AND REGIONAL POOLED FUND PROJECTS (2012)

This item contains descriptions of active pooled fund projects that ITD is a participant in for FY2012. A total of $299,100 is budgeted for pooled funds costs,

ITEM 7.4.1 – SPR-3(072)

IDENTIFICATION: SPR-3(072)

Title:	Strength and Deformation Characteristics of Mechanically Stabilized Earth (MSE) Walls
Research Agency:	Royal Military College, Kingston, Ontario, Canada
	State Contact: Tony Allen, Washington DOT, allent@wsdot.wa.gov
	FHWA Contact: Not available
Work Plan Approval:	Approved
ITD Key Number:	08756

OBJECTIVE

- Previous pooled fund studies on the durability of geosynthetics have resulted in the development of protocols that can be used to determine the long-term strength of geosynthetic reinforcement. This durability research focused on the resistance side of the internal stability equation. The load side of the internal stability equation has remained virtually unchanged for 20 years, even though it is recognized that the existing design procedures are overly conservative. For the last seven years, Washington Department of Transportation (WSDOT) has funded research on the prediction of loads and deformations in MSE walls, primarily focused on geosynthetic reinforcement. An improved K_o – Stiffness design methodology has been developed in the current pooled-fund project.
- The objective of this pooled fund study is to extend the improved design methodology to marginal quality backfill materials, i.e. silts. Some full-scale walls need to be designed with the K_o – Stiffness method and monitored to validate the method. The AASHTO T-15 Technical Committee on Foundations and Walls needs the validation walls, if the K_o – Stiffness method is to be incorporated into the AASHTO Load and Resistance Factor Design (LRFD) bridge specifications. The method will also need to be adapted to seismic design.
- The project began in 1999 and has included multiple phases over the past 10 years. The project is now expected to be completed in July of 2012. The total cost for the project is estimated at approximately $700,000.

PROPOSED ACTIVITY – FY2012

- Continue with development of database with information that will help further refine the K-Stiffness method. Efforts will also continue to calibrate the K-Stiffness Method for both geosynthetic reinforced soil walls and steel reinforced soil walls. The final report will be written for all 6 phases and be completed in July 2012.
- Tri Buu, Geotechnical Engineer, is the ITD Project Manager

COST

- FY2012: Funding commitment met – no additional funding needed

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 7.4.2 – TPF-5(035)

IDENTIFICATION: TPF-5(035)

Title:	Pacific Northwest Snowfighters
Research Agency:	Washington State Department of Transportation
State Contact:	Kim Willoughby, Washington DOT, willouk@wsdot.wa.gov
Work Plan Approval:	Approved
ITD Key Number:	08786

OBJECTIVE

- Develop specifications for chemicals related to snow and ice control. Support winter maintenance professionals with information on current technologies, supplier contacts, and networking opportunities. Conduct research on maintenance chemicals and activities.

PROPOSED ACTIVITY – FY2012

- Project was reopened in FY2007. This phase of the project is expected to be completed by December 31, 2010. The Qualified Products List (QPL) and deicer specifications can be viewed at http://www.wsdot.wa.gov/partners/pns/resources.htm. A draft report is expected the end of September.
- Ron Wright, Chemistry Lab Supervisor, is the ITD Project Manager.

COST

- FY2012: None anticipated. Funding commitment met.

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 7.4.3 – TPF-5(054)

IDENTIFICATION: TPF-5(054)

Title:	Development of Maintenance Decision Support System (MDSS)
Research Agency:	South Dakota Department of Transportation
State Contact:	David Huft, South Dakota Department of Transportation, dave.huft@state.sd.us
FHWA Contact:	Not available
Work Plan Approval:	Approved
ITD Key Number:	11959

OBJECTIVE

- Improve winter maintenance efficiency through the implementation of automated maintenance Decision Support Systems (MDSS). The pooled fund will pay for jointly agreed upon research activities and support meetings of state representatives to share experiences with MDSS.

PROPOSED ACTIVITY – FY2012

- Hold meetings of state representatives to share MDSS best practices. Continue research and development activities. ITD's Office of Highway Operations and Safety has initiated a pilot project in District 4 to assess the potential benefits of statewide implementation.
- Steve Spoor, Maintenance Services Manager, is the ITD Project Manger.

COST

- FY2012: Funding commitment met – no additional funding needed

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 7.4.4 – TPF-5(064)

IDENTIFICATION: TPF-5(064)

Title:	Western Alliance for Quality Transportation Construction (WAQTC)
Research Agency:	Utah Department of Transportation
State Contact:	Michael Fazio, Utah Department of Transportation, mfazio@utah.gov
FHWA Contact:	Bernie Kuta, Bernie.kuta@fhwa.dot.gov
Work Plan Approval:	Approved
ITD Key Number:	09127

OBJECTIVE:

- Support the development and refinement of a training and qualification program for construction inspection and materials testing technicians by WAQTC.

PROPOSED ACTIVITY – FY2012:

- WAQTC is implementing a Transportation Technician Qualification Program (TTQP), and a Laboratory Qualification Program (LQP). More information can be found on their website: www.waqtc.org. Project completion date is now October 1, 2011.
- Garth Newman, Training Specialist, serves as the ITD Project Manager.

COST:

- FY2012: Funding commitment met – no additional funding needed. Item included in the Work Program to show program activity for FY2012. Funding comes from the Division of Highways.

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 7.4.5 – SPR-5(074)

IDENTIFICATION: SPR-5(074)

Title:	Evaluation of Pre-Stressed Losses in Long-Span Post-Tensioned Bridges
Research Agency:	California Department of Transportation
State Contact:	Charles Sikorsky, California Department of Transportation, Charles_sikorsky@dot.ca.gov
FHWA Contact:	Joey Harmann, joey.harmnan@fhwa.dot.gov
Work Plan Approval:	Approved
ITD Key Number:	09304

OBJECTIVE

- In the new AASHTO LRFD Specification, the approximated method for evaluating pre-stress losses only applies to spans less than 160 feet in length, and the refined method for spans less than 240 feet long. If losses are overestimated, excessive camber and improper drainage could result. If underestimated, cracking could occur.
- The overall objective is to assess the time dependent "lump sum" and refined pre-stress loss estimates based on the current AASHTO LRFD Bridge Design Specification. Previous or more recent research that shows promise will be reviewed. Changes to the current loss models will be suggested and the models assessed by long-term field measurements.

PROPOSED ACTIVITY – FY2012

- Data collection continues on bridges included in the study. The final report is being published. Project closeout is expected in FY2012.
- Matt Farrar, State Bridge Engineer, is the ITD Project Manager.

COST

- FY2012: Funding commitment met – no additional funding needed.

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 7.4.6 – TPF-5(090)

IDENTIFICATION: TPF-5(090)

Title:	Pavement Tools Consortium
Research Agency:	University of Washington
State Contact:	Leni Oman, Washington Department of Transportation, omanl@wsdot.wa.gov
FHWA Contact:	Katherine Petros, Katherine.petros@fhwa.dot.gov
Work Plan Approval:	Approved
ITD Key Number:	09307

OBJECTIVE:

- In May 2000, the University of Washington embarked on a project for the development of a set of pavement tools that can be used by a DOT or paving contractor to improve communication, training, and design/construction for the pavement topic area.
- The objective of the Pavement Tools Consortium is to develop and use hot mix asphalt (HMA) – oriented, computer-based pavement tools. The major focus is the enhancement of pavement-related training and construction. Examples of the tools include HMA View Database, Interactive Training, Computer Simulations, Distance Learning Content, and Computation Software.

PROPOSED ACTIVITY – FY2012:

- Continue to maintain and update the Pavement Interactive (PI) to make it more user-friendly. Work on the draft final report. The project will wrap up in 2013.
- Mark Wheeler, Pavement Engineer, or Mike Santi, Materials Engineer, serves as the ITD Technical Committee Representatives.

COST:

- FY2012: Funding commitment met – no additional funding needed.

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 7.4.7 – TPF-5(145)

IDENTIFICATION: TPF-5(145)

Title:	Western Maintenance Partnership
Research Agencies:	Utah Department of Transportation
State Contact:	Michael Fazio, Utah Department of Transportation, mfazio@utah.gov
FHWA Contact:	Celso Gatchalian, celso.gatchalian@fhwa.dot.gov
Work Plan Approval:	Approved
ITD Key Number:	10973

OBJECTIVE

- Provide a partnering forum for promoting effective maintenance strategies to meet the following objectives: provide funds for multi-day annual workshop; define, support, and share technology of mutual interest; provide funds for formal training presentations; and provide funds for special studies, investigations, research, and training.

PROPOSED ACTIVITY – FY2012

- An annual workshop will be held to exchange information about state maintenance programs in participating states. The workshop will also include formal training presentations.
- Steve Spoor, Maintenance Services Manager, is the ITD Project Manager.

COST

- FY2012: Funding commitment met – no additional funding needed in FY2012. The Division of Highways has provided funding.

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 7.4.8 – TPF-5(154)

IDENTIFICATION: TPF-5(154)

Title:	Census Transportation Planning Products (CTPP)
Research Agency:	Federal Highway Administration
FHWA Contact:	Elaine Murakami, Elaine.murakami@fhwa.dot.gov
Work Plan Approval:	Approved
ITD Key Number:	10972

OBJECTIVE

- Over the five-year period, the CTPP pooled fund project will support a family of activities, including data products, on-demand technical assistance, training, and research.

PROPOSED ACTIVITY – FY2012

- Workplace allocation research data access software will be developed. CTPP Profile Sheets are posted on AASHTO's CTPP webpage and FHWA's CTPP webpage. The project will be completed in 2012.
- Sonna Lynn Fernandez, Transportation Planning Coordinator, is the ITD Project Manager.

COST

- FY2012: Funding commitment met – no additional funding needed.

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 7.4.9 – TPF-5(171)

IDENTIFICATION: TPF-5(171)

Title:	Evaluation of Non-Intrusive Traffic Detection Technologies – Phase III
Research Agency:	Minnesota Department of Transportation
State Contact:	Jerry Kotzenmacher, Minnesota Department of Transportation, jerry kotzenmacher@dot.state.mn.us
FHWA Contact:	Steven Jessberger, steven.jessberger@fhwa.dot.gov
Work Plan Approval:	Approved
ITD Key Number:	11459

OBJECTIVE

- Conduct field tests of the latest generation of non-intrusive traffic sensors in order to assess their capabilities and limitations in a variety of test conditions. Specific test conditions will be driven by the needs of participating state agencies.

PROPOSED ACTIVITY – FY2012

- Final report has been written. Waiting for closeout of pooled fund.
- Glenda Fuller, Roadway Data Section Manager, is the ITD Project Manager.

COST

- FY2012: Funding commitment met – no additional funding needed.

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 7.4.10 – TPF-5(174)

IDENTIFICATION: TPF-5(174)

Title:	Construction of Crack-Free Concrete Bridge Decks
Research Agency:	University of Kansas
State Contact:	Rodney Montney, Kansas Department of Transportation, rodney@ksdot.org
FHWA Contact:	Joey Harmann, joey.hartmann@fhwa.dot.gov
Work Plan Approval:	Approved
ITD Key Number:	09065

OBJECTIVE

- Considerable research has been done on the causes of cracking over the past years, but few of the findings have been implemented.
- The purpose of this study is to implement the most cost-effective techniques for improving bridge deck life through the reduction of cracking. The work involves cooperation between state departments of transportation, cement companies, contractors, and designers. Estimated completion date for this project is June 30, 2013.

PROPOSED ACTIVITY – FY2012

- The project team will update plans; perform laboratory work to establish best practices; modify bridge designs; and update construction specifications, procedures, techniques, and materials requirements. The researchers will continue selecting and scheduling bridges for construction. Following construction, detailed crack surveys will be done at six month, one-, two-, and three-year intervals.
- Matt Farrar, State Bridge Engineer, is the ITD Project Manager.

COST

- FY2012: Funding commitment met – no additional funding needed. A total of $70,000 was committed for this pooled fund from FY2008 – FY2012. $14,000 was paid in FY2008 and FY2009, and the remaining $42,000 was paid in FY2010. This fulfilled our commitment through FY12 at $14,000 per year.

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 7.4.11 – TPF-5(190)

IDENTIFICATION: TPF-5(190)

Title:	Northwest Passage – Phase III
Research Agency:	Minnesota Department of Transportation
State Contact:	Ginny Crowson, Minnesota Department of Transportation, ginny.crowson@dot.state.mn.us
FHWA Contact:	Raj Ghaman, Raj.Ghaman@fhwa.dot.gov
Work Plan Approval:	Approved
ITD Key Number:	11895

OBJECTIVE

- Northwest Passage Corridor encompasses the states along I-90/I-94 from Wisconsin to Washington. The purpose of the pooled fund is to influence ongoing standards development and utilize effective methods for sharing, coordinating, and integrating traveler information across state borders. Improving coordination of traveler information is the initial focus, while coordinated maintenance, operations, planning, and programming are long-term visions.

PROPOSED ACTIVITY – FY2012

- This year researchers will work to:
    - Develop traveler information sharing along the corridor (I-90 and I-94).
    - Develop a process for gaining compliance with the final rule.
    - Develop a template for states to establish a citizen-reporting program.
    - Develop the cost/benefit evaluation tool.
    - Enhance the traveler information website (www.i90i94travelinfo.com).
    - Examine ways to make commercial vehicle permitting more efficient.
- Robert Koeberlein, Mobility Services Engineer, is the ITD Project Manager.

COST

- FY2012: $25,000 (100% Federal SPR). ITD's Research Advisory Council voted to commit a total of $75,000 ($25,000 annually) in FY2012 through FY2014.

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	3/21/2012
Letter Sent to FHWA:	☒ YES	☐ NO	Date Sent:	3/22/2012
Approval Letter Received:	☒ YES	☐ NO	Date Received:	3/26/2012
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: ITD's participation in this pooled fund was previously approved. SPR funds were allocated to the pooled fund in FY2009 and FY2010. ITD's Research Advisory Council approved allocating additional funds to the project for FY2012-FY2014.

ITEM 7.4.12 – TPF-5(191)

IDENTIFICATION: TPF-5(191)

Title:	Northwest Transportation Consortium
Research Agency:	ATRC (University of Alaska, Fairbanks) Oregon Transportation Research and Education Consortium (Oregon State University and Portland State University)
State Contact:	Tim Carlile, Washington Department of Transportation, carlilti@wsdot.wa.gov
FHWA Contact:	Not Available
Work Plan Approval:	Approved
ITD Key Number:	11896

OBJECTIVE

- This project is a cooperative effort by the DOTs and University Transportation Centers (UTCs) in the Northwest: Alaska, Idaho, Oregon, and Washington. The purpose of the project is to assess the likely impacts of climate change on the surface transportation systems in the Pacific Northwest and Alaska. The study is focusing on the impacts in inland, as well as coastal areas, and will recommend adaptation strategies for state DOT consideration.
- The total cost of the project will be $200,000, with each DOT contributing $25,000 and the participating UTCs providing matching funds totaling $100,000. The Oregon Transportation Research and Education Consortium has also agreed to provide $5,000 in in-kind services to develop education and outreach materials.

PROPOSED ACTIVITY – FY2012

- The draft is completed on climate change in Alaska, Idaho, Oregon, and Washington and the likely impact of these changes on the surface transportation systems in the region. Prepare final report. The project will be completed in FY2011.
- Ned Parrish, Research Manager, is the ITD Project Manager.

COST

- FY2012: Funding commitment met – no additional funding needed.

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:

Comments:

ITEM 7.4.13 – TPF-5(192)

IDENTIFICATION: TPF-5(192)

Title:	Loop- and Length-Based Classification Pooled Fund
Research Agency:	Minnesota Department of Transportation
State Contact:	Sue Lodahl, Minnesota Department of Transportation, sue.lodahl@dot.state.mn.us
FHWA Contact:	Steven Jessberger, steven.jessberger@fhwa.dot.gov
Work Plan Approval:	Approved
ITD Key Number:	Paid by Roadway Data section

OBJECTIVE

- Field test installation methods for loops to determine the most cost effective and best performing procedures and materials. Determine the number of bins and the length spacing for each of those bins for uniform collection of length-based classification data. Establish calibration standards for vehicle length-based measurements. The scheduled completion date is December 31, 2011.

PROPOSED ACTIVITY – FY2012

- Commence field testing of loop and non-loop sensors.
- Coordinate with states for calibration and data collection.
- Glenda Fuller, Roadway Data Section Manager, is the ITD Project Manager.

COST

- FY2012: Funding commitment met – no additional funding needed. Included in the Work Program to show program activity for FY2012. The Roadway Data Section provided funding.

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 7.4.14 – TPF-5(209)

IDENTIFICATION: TPF-5(209)

Title:	Transportation Curriculum Coordination Council (TCCC) Training Management and Development
Research Agency:	National Highway Institute
FHWA Contact:	Christopher Newman, Christopher.newman@fhwa.dot.gov
Work Plan Approval:	Approved
ITD Key Number:	12275

OBJECTIVE

- Provide leadership at a national level, develop and maintain a national curriculum for various transportation disciplines, identify training and certification requirements, and coordinate/facilitate training efforts. This is a five-year project.

PROPOSED ACTIVITY – FY2012

- TCCC will develop a core curriculum matrix that will be used as a guide to determine training requirements and options available to meet those requirements. Development of a website, accessible to all construction personnel, for the purpose of disseminating information such as training requirements/courses, contact persons, and TCCC activities and news. The website address is: https://fhwaapps.fhwa.dot.gov/tccc/
- Garth Newman, Training Specialist, is the ITD Project Manager.

COST

- FY2012: Funding commitment met – no additional funding needed. A total of $25,000 was paid in FY2010. This fulfilled our commitment for FY2010 – FY2014 at $5,000 per year.

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:

Comments:

ITEM 7.4.15 – TPF-5(218)

IDENTIFICATION: TPF-5(218)

Title:	Clear Roads Winter Highway Operations Pooled Fund
Research Agency:	Minnesota Department of Transportation
State Contact:	Debra Fick, (deb.fick@dot.state.mn.us)
FHWA Contact:	Not Available
Work Plan Approval:	Yes, previously approved
ITD Key Number:	13338

OBJECTIVE

- This new Clear Roads pooled fund project will maintain its focus on advancing winter highway operations nationally but will include a more pronounced emphasis on state agency needs, technology transfer and implementation. Clear Roads will evaluate new tools and practices in both lab and field settings, develop industry standards and performance measures, provide technology transfer and cost benefit analysis, and support winter highway safety.

PROPOSED ACTIVITY – FY2012

- Conduct structured field testing and evaluation across a range of winter conditions and different highway maintenance organizational structures to assess the practical effectiveness, ease of use, optimum application rates, barriers to use, durability, safety, environmental impact and cost-effectiveness of innovative materials, equipment and methods for improved winter highway maintenance.
- Ron Wright, Chemistry Lab Supervisor, is the ITD Project Manager.

COST

- FY2012: $25,000 (100% Federal SPR). ITD's Research Advisory Council voted to commit a total of $50,000 ($25,000 annually) in FY2012 and FY2013.

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 7.4.16 – TPF-5(229)

IDENTIFICATION: TPF-5(229)

Title:	Characterization of Drainage Layer Properties for Mechanistic-Empirical Pavement Design Guide (MEPDG)
Research Agency:	Virginia Department of Transportation
State Contact:	Brian Diefenderfer, Virginia Department of Transportation, Brian.Diefenderfer@VDOT.Virginia.gov
FHWA Contact:	James Sherwood, Jim.Sherwood@fhwa.dot.gov
Work Plan Approval:	Approved
ITD Key Number:	12896

OBJECTIVE

- Develop methods to characterize the elastic modulus and strength of drainage layers for MEPDG, perform analysis of the stability and failure of the drainage layer in the pavement structure, and develop specifications for required minimum porosity for effective drainage.

PROPOSED ACTIVITY – FY2012

- Develop testing methods or modify/adapt existing methods to characterize the elastic modulus and strength of asphalt concrete, other bounded materials, or granular materials at high porosity. It is anticipated that triaxial tests and a portable ultrasound test device will be used.
- Mark Wheeler, Pavement Engineer, is the ITD Project Manager.

COST

- FY2012: $30,000 (100% Federal SPR). Committed $30,000 per year for FY2010 – FY2012. This payment will fulfill our $90,000 commitment.

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 7.4.17 – TPF-5(231)

IDENTIFICATION: TPF-5(231)

Title:	ITS Pooled Fund Program (ENTERPRISE)
Research Agency:	Michigan Department of Transportation
State Contact:	Lee Nederveld, NederveldL@michigan.gov
FHWA Contact:	Ray Murphy, ray.murphy@fhwa.dot.gov
Work Plan Approval:	Approved
ITD Key Number:	12897

OBJECTIVE

- Investigate and promote Intelligent Transportation System (ITS) approaches and technologies that are compatible with other national and international ITS initiatives
- Support the individual ITS program plans of ENTERPRISE participants, provide a mechanism to support multistate and international project cooperation and technical information interchange
- Facilitate the formation of public-private partnerships for appropriate program activities
- Pursue emerging ITS project opportunities in areas of interest to the group
- Provide test beds in a variety of environments and locations for emerging ITS technologies
- Identify common needs within the group and proceed with appropriate technical activities

PROPOSED ACTIVITY – FY2012

- Develop work plan for the upcoming phase of projects through a collaborative process.
- Robert Koeberlein, Mobility Services Engineer, is the ITD Project Manager.

COST

- FY2012: Funding commitment met for the year. Committed $30,000 per year for FY2010 – FY2014. Paid $101,745 in FY2011. Still owe $48,255 to fulfill commitment through FY2014.

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 7.4.18 – TPF-5(237)

IDENTIFICATION: TPF-5(237)

Title:	Transportation Library Connectivity
Research Agency:	Missouri Department of Transportation
State Contact:	AJ Million, anthony.million@modot.mo.gov
Work Plan Approval:	Approved
ITD Key Number:	

OBJECTIVE

- Facilitate development of a transportation library at ITD in collaboration with other northwest DOT libraries. Provide access to the Online Computer Library Center (OCLC), which will make it easier for ITD staff to obtain information about research and best practices in other states.

PROPOSED ACTIVITY – FY2012

- Collaboration will continue between the Regional Transportation Knowledge Networks (TKNs). The Transportation Librarian's Toolkit has been updated and new content will continue to be added
- Inez Hopkins, Senior Research Analyst, is the ITD Project Manger.

COST

- FY2012: Funding commitment met – no additional funding needed. A total of $40,000 was paid in FY2010. This fulfilled our commitment for FY2010-FY2013 at $10,000 per year.

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 7.4.19 – TPF-5(238)

IDENTIFICATION: TPF-5(238)

Title:	Design and Fabrication Standards to Eliminate Fracture Critical Concerns in Two Girder Bridge Systems
Research Agency:	Indiana Department of Transportation
State Contact:	Tommy Nantung, tnantung@indot.in.gov
FHWA Contact:	Justin Ocel, justin.ocel@dot.gov
Work Plan Approval:	Approved
ITD Key Number:	12900

OBJECTIVE

- Establish guidance that provides a high level of bridge safety that can then form the basis for in-service inspection decisions. When considering the estimated projects' costs, it must be recognized that the results of this research will be transformative for the steel bridge industry. For the first time, material selection, design, and inspection will be rationally integrated to eliminate fracture concerns. This can result in significant cost savings for medium and long span bridges and facilitate introduction of modular concepts for short span bridges.

PROPOSED ACTIVITY – FY2012

- Initiate experimental study of fracture in I-girders to determine supplemental toughness requirements, including full-scale fracture tests and fracture mechanics tests.
- Matt Farrar, State Bridge Engineer, is the ITD Project Manager.

COST

- FY2012: $20,000 (100% Federal SPR). ITD's Research Advisory Council voted to commit a total of $60,000 ($20,000 annually) for FY2010 – FY2012. This payment will fulfill our $60,000 commitment.

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 7.4.20 – TPF-5(251)

IDENTIFICATION: TPF-5(251)

Title:	Relative Operational Performance of Geosynthetics Used as Subgrade Stabilization
Research Agency:	Montana Department of Transportation
State Contact:	Craig Abernathy, cabernathy@mt.gov
FHWA Contact:	Eric Weaver, Eric.Weaver@fhwa.dot.gov
Work Plan Approval:	Approved
ITD Key Number:	13335

OBJECTIVE

- Identify the geosynthetic properties that are most directly related to the strengthening of the weak subgrade soils. The research results will be used to develop specifications for geosynthetic materials used to stabilize weak subgrade soils.

PROPOSED ACTIVITY – FY2012

- Initiate project. Establish technical advisory committee. Begin building 13 test sections, 11 with geosynthetics and at least two controls (i.e., no geosynthetic).
- Tri Buu, Geotechnical Engineer, is the ITD Project Manager.

COST

- FY2012: $72,400 (100% Federal SPR). ITD's Research Advisory Council voted to commit a total of $90,000 to this pooled fun. The remaining $17,600 will be budgeted in FY2013.

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	8/8/2012
Letter Sent to FHWA:	☒ YES	☐ NO	Date Sent:	8/14/2012
Approval Letter Received:	☐ YES	☐ NO	Date Received:	
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: The amount budgeted for this pooled fund in FY2012 is being increased to make full use of resources. This will reduce the amount needed for the pooled fund in FY2013 to $17,600.

ITEM 7.4.21 – TPF-5(255)

IDENTIFICATION: TPF-5(255)

Title:	Highway Safety Manual Implementation
Research Agency:	Federal Highway Administration
State Contact:	Lisa Williams, lisa.a.williams@dot.gov
FHWA Contact:	Esther Strawder, Esther.Strawder.@dot.gov
Work Plan Approval:	Yes, previously approved
ITD Key Number:	13336

OBJECTIVE

- The objectives of the study are (1) to advance ongoing efforts by lead states to implement the Highway Safety Manual (HSM), and (2) to expand implementation to all states. This study will be coordinated with other ongoing and planned implementation activities sponsored by AASHTO, FHWA, and TRB. It will also be coordinated with projects that develop content for future editions of the Highway Safety Manual.

PROPOSED ACTIVITY – FY2012

- Conduct research tasks and develop products that will enable States to accelerate their implementation of the HSM. Facilitate Technical Working Group representatives participation in peer exchanges and other forums through which agencies can exchange information, best practices, lessons learned and remaining challenges in implementing the HSM appropriately.
- Brent Jennings, Highway Safety Manager, is the ITD Project Manager.

COST

- FY2012: $20,000 (100% Federal SPR). ITD's Research Advisory Council voted to commit a total of $80,000 ($20,000 in FY2012) and ($30,000 in FY2013 and FY2014).

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 7.4.22 – TPF-5(259)

IDENTIFICATION: TPF-5(259)

Title:	Imaging Tools for Evaluation of Gusset Plate Connections in Steel Truss Bridges
Research Agency:	Oregon Department of Transportation
State Contact:	Steven Soltesz, steven.m.soltesxz@odot.state.or.us
FHWA Contact:	Justin Ocel, justin.ocel@dot.gov
Work Plan Approval:	Approved
ITD Key Number:	13350

OBJECTIVE

There are four main objectives of the proposed research:

- Develop methods to collect dimensional gusset plate connection information including surface geometry and out-of-plane deformations on in-service gusset plates.
- Develop methods to automate identification and optimization of reference target points. Develop methods to automate extraction of gusset plate edge locations, fastener locations and their corresponding member affiliations, and member orientations.
- Develop finite element modeling and analysis techniques to directly rate gusset plates using extracted digital image data as the input source.
- Develop software tools to manage and organize images and image data to enhance bridge management and allow identification of condition changes over time.

PROPOSED ACTIVITY – FY2012

- The project will be initiated in FY 2012. During FY 2012 researchers are expected to complete the literature review, develop a method to combine multiple 2D photographs to produce 3D representations of gusset plate connections from which dimensional data can be obtained, and develop a method to capture out-of-plane plate distortions. In addition the effort to automate image manipulation and data extraction will get underwayas will the development of a finite element analysis protocol that can conduct allowable stress rating, load factor rating, or load and resistance factored rating directly from the prepared photographs.
- Matt Farrar, Bridge Engineer, is the ITD Project Manager.

COST

- FY2012: $10,000 (100% Federal SPR).

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	3/21/2012
Letter Sent to FHWA:	☒ YES	☐ NO	Date Sent:	3/22/2012
Approval Letter Received:	☒ YES	☐ NO	Date Received:	3/26/2012
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: Funding for this pooled fund project was approved by ITD's Research Advisory Council (RAC) in December 2011.

ITEM 7.4.23 – TPF-5(261)

IDENTIFICATION: TPF-5(261)

Title:	Core Program Services for a Highway Research Development and Technology Program
Research Agency:	Federal Highway Administration
FHWA Contact:	Jean Landolt, Jean.Landolt@dot.gov
Work Plan Approval:	Annual Agreement
ITD Key Number:	13366

OBJECTIVE

- To provide a mechanism for state transportation departments to support TRB core program services. This pooled fund study permits states to make their contributions to the TRB Core Programs through the pooled fund process instead of sending their contributions to TRB directly.

PROPOSED ACTIVITY – FY2012

- Continue annual support for TRB Core Services.
- Ned Parrish, Research Manager, is the ITD Project Manager.

COST

- FY2012: $86,700 (100% Federal SPR).

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	8/8/2012
Letter Sent to FHWA:	☒ YES	☐ NO	Date Sent:	8/14/2012
Approval Letter Received:	☐ YES	☐ NO	Date Received:	
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: Reduced originally budgeted amount of $92,000 to $86,700 to reflect actual payment amount.

ITEM 7.4.24 – TPF-5(271)

IDENTIFICATION: TPF-5(271)

Title:	Reorganization of Section 5, Concrete Structures, of the AASHTO LRFD Bridge Design Specifications
Research Agency:	Kansas Department of Transportation
FHWA Contact:	Susan Barker SusanB@ksdot.org
Work Plan Approval:	Pending Approval
ITD Key Number:	TBD

OBJECTIVE

- The purpose of this project is to reorganize Section 5, Concrete Structures, of the AASHTO LRFD Bridge Design Specification so that Section 5 is logically organized and philosophically and technically consistent. The entire LRFD Bridge Design Specification AASHTO Bridge Construction Specification must be reviewed and updated as necessary to maintain consistency.

PROPOSED ACTIVITY – FY2012

- Survey stakeholders to identify the needs for returning Section 5 to its original consistency of organization, philosophy, and technique.
- Matt Farrar, Bridge Engineer, is the ITD Project Manager.

COST

- FY2012: $10,000 (100% Federal SPR).

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 7.4.25 – SOL 1294

IDENTIFICATION: SOL 1294

Title:	Full-Scale Shake Table Testing to Evaluate Seismic Performance of Reinforced Soil Walls
Research Agency:	Washington State Department of Transportation
State Contact:	Kim Willoughby, willouk@wsdot.wa.gov
FHWA Contact:	Not available
Work Plan Approval:	Yes, previously approved
ITD Key Number:	To be determined

OBJECTIVE

- Perform a unique experimental investigation of the dynamic response and performance of two full-scale (10 m) reinforced soil retaining walls constructed using realistic materials and methods. A key focus of the proposed research will be on the influence of wall height on overall system response (i.e., external stability/deformation response) and distribution of dynamic tensile forces (i.e., seismic demand) in soil reinforcement. Other focus areas will be dynamic earth pressure on facing elements, effects of dynamic loading on soil-reinforcement load transfer mechanisms and permanent deformations after dynamic loading.

PROPOSED ACTIVITY – FY2012

- Initiate project. Specific types of walls to be tested will be established in discussion with the TAC and representatives from each of the funding organizations. Each wall will be shaken at several heights during construction to assess the effect of wall height on dynamic response. The full-scale soil walls will be heavily instrumented with sensors so testing can be effectively measured.
- Tri Buu, Geotechnical Engineer, is the ITD Project Manager.

COST

- ITD's Research Advisory Council voted to commit a total of $20,000 ($10,000 annually) in FY2012 and FY2013. However, the pooled fund is still in the solicitation phase, so funds will be budgeted in FY2013 and FY2014.

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	8/8/2012
Letter Sent to FHWA:	☒ YES	☐ NO	Date Sent:	8/14/2012
Approval Letter Received:	☐ YES	☐ NO	Date Received:	
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: Funding originally budgeted to this pooled fund for FY12 is being shifted to support other pooled fund commitments because this project has yet to receive the required commitments to move forward.

ITEM 7.5 – 2009 COOPERATIVE RESEARCH PROJECTS (UNIVERSITY OF IDAHO)

IDENTIFICATION: Research Projects 191, 192, and 193

Title: Cooperative Transportation Research Program
Research Agency: University of Idaho (NIATT)
Work Plan Approved: Yes, previously authorized

This item outlines the cooperative research projects with the University of Idaho's National Institute for Advanced Transportation Technology (NIATT) that were awarded for FY2009. Descriptions of each project are provided below.

ITEM 7.5.1 – RESEARCH PROJECT 191

IDENTIFICATION: Research Project 191

Title: Potential Crash Reduction Benefits of Safety Improvement Projects
Research Agency: University of Idaho (NIATT)
Work Plan Approval: Yes, previously authorized

OBJECTIVE

- This project includes research to aid ITD in assessing the impact of safety investments. The research will evaluate the effectiveness of selected crash countermeasures currently in use, and those being considered for implementation, on Idaho's state highways. The data will enable ITD to make informed safety improvement decisions by revealing the characteristics of crashes and assessing the safety impacts and cost-effectiveness of countermeasures.
- The project objectives are:
    1. Identify the effectiveness of shoulder and centerline rumble strips in reduction of run-off-the road crashes and head-on collisions.
    2. Identify the effectiveness of durable pavement marking in reducing the number and severity of crashes.
    3. Identify potential safety benefits of using advance warning signals and advance detection on high-speed signalized intersections.
    4. Investigate and document the characteristics of crashes at railroad crossings and recommend possible crash countermeasures to reduce the number and severity of these crashes.
    5. Investigate and document the characteristics of vehicle/animal crashes in Idaho and recommend possible crash countermeasures to reduce the number and severity of these crashes based on the NCHRP Synthesis.
    6. Review and document possible measures to improve the safety of elderly drivers.
- The project began in January 2009 and originally was to be completed in 13 months. The estimated project cost was $67,968 ($54,375 Federal SPR (80.20)).
- Brent Jennings, Highway Safety Manager, is the ITD Project Manager.

PROPOSED ACTIVITY – FY2012

- A final report including 2010 data is scheduled to be completed in the summer of 2012.

COST

- Funding for the project was originally encumbered in FY2009. An additional $16,000 was budgeted in FY2011 to cover the costs of the additional analysis. As a result no additional funds are necessary in FY2012. The project is included in the Work Program to show program activity in FY2012

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 7.5.2 – RESEARCH PROJECT 192

IDENTIFICATION: Research Project 192

Title: Native Plants for Roadside Revegetation
Research Agency: University of Idaho (NIATT)
Work Plan Approval: Yes, previously authorized

OBJECTIVE

- This project focuses on the use of native plants for roadside construction and/or maintenance projects. The results from the project will be used for future revegetation efforts on construction projects, restoring natural habitats, improving wetland mitigation, and developing native plant gardens in rest areas.
- The project objectives are:
    1. Research and evaluate the reintroduction of native plants along interstates and state highways for ease of establishment, site adaptability, effectiveness of erosion control, and prevention of weed encroachment.
    2. Research and evaluate existing native plant populations in respect to slope stabilization, species establishment, and effectiveness of native plant establishment on existing weed population.
    3. Test and evaluate techniques used to facilitate establishment of native vegetation in areas affected by road construction and maintenance activities.
    4. Collect field data on plant germination and initial plant establishment.
    5. Evaluate the longevity of establishment and effectiveness of native species in highly altered nutrient deprived site conditions.
    6. Review and reevaluate plant species from previous research projects suitable for this project.
    7. Identify specific plant species and site selections that display characteristics best suited for Idaho roadside vegetation.
    8. Provide results and documentation from this project to ITD staff.
    9. Update revegetation practices in department manuals.
    10. Develop training workshops for ITD personnel using effective roadside revegetation techniques.
- The completion date for this project is set for September 30,2012. The estimated project cost is $146,288 ($117,031 Federal SPR (80/20)).
- Cathy Ford, Roadside Program Coordinator, is the ITD Project Manager.

PROPOSED ACTIVITY – FY2012

- Develop material for training and presentation for ITD workshops. Do manual updates. Submit a draft and final report for ITD/FHWA.

COST

- FY2009 and FY2010 funds were encumbered to cover project costs. As a result, no additional funds are budgeted for FY2012. The project is included in the Work Program to show program activity in FY2012.

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 7.5.3 – RESEARCH PROJECT 193

IDENTIFICATION: Research Project 193

Title:	Implementation of the Mechanistic Empirical Pavement Design Guide (MEPDG) for Flexible Pavements in Idaho
Research Agency:	University of Idaho (NIATT)
Work Plan Approval:	Yes, previously authorized

OBJECTIVE

- The purpose of this project is to develop and execute an implementation plan for MEPDG in Idaho. The team will work cooperatively with the materials and planning sections at ITD to develop the required data from all state regions as required and specified by the NCHRP 1-37A and the NCHRP 1-140 projects.
- The project objectives are:
    1. Review and understand the latest version of the MEPDG software.
    2. Develop and establish material database for the various material layers in the state.
    3. Develop traffic load spectra for various axle loads operating on various road classes.
    4. Develop software that enables ITD engineers to analyze the weigh-in-motion (WIM) data and develop the required load spectra at a given location.
    5. Establish climatic factors for the various regions.
    6. Study the sensitivity of the MEPDG for the variations considered in traffic, materials, and climates, and develops recommendations for the appropriate design level and reliability levels to be adopted with the implementation plan.
    7. Develop a training workshop for ITD engineers for the software and the design process as per the MEPDG procedures.
- The duration of this project is 24 months. The project completion date is set for December 31, 2011. The estimated project cost is $187,822 ($150,258 Federal SPR (80/20)).
- Mike Santi, Materials Engineer, and Mark Wheeler, Pavement Engineer are the ITD Project Managers.

PROPOSED ACTIVITY – FY2012

- Implement research, products, and training. Submit final report to ITD/FHWA.

COST

- FY2009 and FY2010 funds were encumbered to cover project costs. As a result, no additional funds are budgeted for FY2012. The project is included in the Work Program to show program activity in FY2012.

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:

Comments:

ITEM 7.6 – 2010 COOPERATIVE RESEARCH PROJECTS (UNIVERSITY OF IDAHO)

IDENTIFICATION: Research Projects 199 and 200

Title: Cooperative Transportation Research Program
Research Agency: University of Idaho (NIATT)
Work Plan Approval: Yes, previously authorized

This item outlines the cooperative research projects with the University of Idaho's National Institute for Advanced Transportation Technology (NIATT) that were awarded for FY2010. Descriptions of each project are provided below.

ITEM 7.6.1 – RESEARCH PROJECT 199

IDENTIFICATION: Research Project 199

Title: Study of the Effectiveness of ITD's Pavement Design Method
Research Agency: University of Idaho (NIATT)
Work Plan Approval: Yes, previously authorized

OBJECTIVE

- This project will evaluate existing ITD design methodologies to determine if they are still applicable to current needs or if modifications can improve performance and reduce costs.
- The project objectives are:
    1. Determine which flexible-pavement design method(s) (with emphasis on surfacing thickness) provides the most economical design.
    2. Review selected District projects designed with the current ITD design methods, for performance and longevity.
    3. Review District projects designed with variations from the standard and provided recommendation on continued or expanded use if research warrants.
    4. Review ITD traffic projection models to determine if Equivalent Single Axle Load (ESAL) values are consistent with other states' calculated values and if projected truck volumes exceed roadway capacities.
    5. Provide recommendations of any proposed changes.
- The expected duration of this project is 18 months. The estimated cost is $96,800 ($77.440 Federal SPR (80/20)).
- The ITD Project Managers are Mike Santi, Materials Engineer; Jeff Drager, Materials Engineer; and Mike Dehlin, Pavement Design Engineer.

PROPOSED ACTIVITY – FY2012

- Submit report outline and summary of key findings, conclusions, and recommendations to ITD. Final report to ITD/FHWA.

COST

- FY2010 funds were encumbered to cover the costs for this project. As a result, no additional funds are budgeted for FY2012. The project is included in the Work Program to show program activity in FY2012.
-

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 7.6.2 – RESEARCH PROJECT 200

IDENTIFICATION: Research Project 200

Title: Relationship of Shoulder Width and Lane Width to Crash Rates
Research Agency: University of Idaho (NIATT)
Work Plan Approval: Yes, previously authorized

OBJECTIVE

- This project will help Idaho determine the appropriate shoulder widths and lane widths to minimize crash rates.
- The project objectives are:
    1. Evaluate the relationship between shoulder width and crash rates on similar roadways within Idaho.
    2. Evaluate the relationship between lane width and crash rates on similar roadways with Idaho.
    3. Develop a guideline for determining the cost-effectiveness of various land a shoulder widths.
    4. Create a Geographic Information System (GIS) map to show the relationship of AADT, crash rates, lane widths and shoulder widths on Idaho roadways.
- The expected duration of this project is 16 months. The estimated project cost is $74,540 ($59,632 Federal SPR (80/20)).
- Kelly Campbell, Principal Research Analyst, is the ITD Project Manager.

PROPOSED ACTIVITY – FY2012

- Prepare a final report and make an executive presentation to ITD.

COST

- FY2010 funds were encumbered to cover the costs for this project. As a result, no additional funds are budgeted for FY2012. The project is included in the Work Program to show program activity in FY2012.

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 7.7 – 2011 COOPERATIVE RESEARCH PROJECTS (UNIVERSITY Of IDAHO)

IDENTIFICATION: Research Projects 204, 205A, and 212

Title: Cooperative Transportation Research Program
Research Agency: University of Idaho
Work Plan Approval: Yes, previously authorized

This section describes projects planned for FY2011 with the University of Idaho. The total cost of the projects is estimated at $216,000. A total of $76,046 was encumbered in FY2010, an additional $139,954 was budgeted in FY2011.

ITEM 7.7.1 – RESEARCH PROJECT 204

IDENTIFICATION: Research Project 204

Title: Analytical Tools for Identifying Bicycle Route Suitability, Coverage, and Continuity
Research Agency: University of Idaho
Work Plan Approval: Yes, previously authorized

OBJECTIVE

- To create a tool that Local Mobility Management Networks can use to assess existing bike coverage, determine route suitability, and identify route continuity gaps.
- The project objectives are:
    1. Collect and analyze existing street and bicycle networks.
    2. Document existing bicycle suitability indices used in Idaho communities and nationwide.
    3. Getting bicycle suitability indices through Local Mobility Management Networks, advocacy groups, MPOs and ITD.
    4. Document existing and planned/programmed facilities.
    5. Identify challenges of multi-jurisdiction planning and limited funding.
    6. Deliver a bicycle route index consisting of suitability criteria.
    7. Deliver a GIS application that will be used to visually identify gaps in the bicycle network.
    8. A research report that summarizes the research and work processes along with the results of the analysis.
- This project will begin in January 2011 and will be completed by February 2012. The estimated project cost is $50,000 ($40,000 Federal SPR (80/20)).
- Maureen Gresham, Bicycle and Pedestrian Planning Coordinator, is the ITD Project Manager.

PROPOSED ACTIVITY – FY2012

- Deliver a bicycle route index, a GIS application for bicycle network, and a research report.

COST

- FY 2011 funds were encumbered to cover project costs. As a result, no additional funds are budgeted for FY 2012. The project is included in the Work Program to show program activity in FY 2012.

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 7.7.2 – RESEARCH PROJECT 205A

IDENTIFICATION: Research Project 205A

Title: 2011 ITD Customer Survey
Research Agency: University of Idaho (SSRU)
Work Plan Approval: Yes, previously authorized

OBJECTIVE

- Conducting the survey will allow ITD to measure current satisfaction with department services and determine how satisfaction levels have changed since the original study. The survey results will be used as a management tool to help target needed improvements within ITD.
- The project objectives are:
    1. Review the survey instruments used in the 2009 study and identify any needed modifications.
    2. Assess customer satisfaction with ITD services.
    3. Measure changes in customer satisfaction since the 2009 survey.
    4. Identify areas for improvement.
    5. Prepare a report summarizing findings and recommendations.
    6. Implementation of recommendations coordinated by ITD's Customer Service Council working with the Department's leadership and the Board.
- The project will begin in May 2011 and will be completed by December 2011. The estimated project cost is $46,000 ($36,800 Federal SPR (80/20)).
- Ned Parrish, Research Manager, is the ITD Project Manager.

PROPOSED ACTIVITY – FY2012

- Develop a modified instrument that improves upon the survey used in the 2009 study. Conduct the telephone survey. Submit frequency tables for each survey item. Researchers and project team will meet to discuss survey results. Follow-up calls will be made as needed to clarify issues identified in the survey. A report outline will be developed.

COST

- FY 2011 funds were encumbered to cover project costs. As a result, no additional funds are budgeted for FY 2012. The project is included in the Work Program to show program activity in FY 2012.

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 7.7.3 - RESEARCH PROJECT 212

IDENTIFICATION: Research Project 212

Title:	Lithologic Characterization of Active ITD Aggregate Sources and Implications for Aggregate Quality
Research Agency:	University of Idaho (Idaho Geological Survey)
Work Plan Approval:	Yes, previously authorized

OBJECTIVE

- Examine the physical and chemical properties of the active concrete and plantmix aggregate sources throughout Idaho. Evaluate the aggregate sources for comparison and geological characterization. The report will be disseminated to the public through an Idaho Geological Survey publication. A GIS/GEODATABASE will be implemented for ITD use.
- The project objectives are:
    1. Identify source gravels by formational units.
    2. Compile technical specification and develop sampling protocols.
    3. Characterize the source material used in road construction from samples obtained throughout Idaho.
    4. Lithologic results compiled into percents and entered into a spreadsheet.
    5. Final report and accompanying ArcGIS project files with all compiled data.
    6. Survey publication, such as a map showing the geologic features and characterizations of the aggregates studied, made available to the public.
    7. Implementing the data into a GIS/GEODATABASE for ITD use.

- This project will begin in May 2011 and will be completed by September 2013. The estimated project cost is $120,000 ($96,000 Federal SPR (80/20)).
- Bill Capual, District 1 Geologist, and Keith Nottingham, District 3 Geologist, are the ITD Project Managers.

PROPOSED ACTIVITY – FY2012

- Identify source gravels, compile technical specification, and develop sampling protocols. Begin the sampling process from all six districts in Idaho.

COST

- FY 2011 funds were encumbered to cover project costs. As a result, no additional funds are budgeted for FY 2012. The project is included in the Work Program to show program activity in FY 2012.

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 7.8 – 2011 COOPERATIVE RESEARCH PROJECTS (BOISE STATE UNIVERSITY)

IDENTIFICATION: Research Projects 206, 207, and 208

Title: Cooperative Transportation Research Program
Research Agency: Boise State University
Work Plan Approval: Yes, previously approved

This section describes projects planned for FY2011 with Boise State University. The total cost of the projects is estimated at $145,000. A total of $54,111 was encumbered for these projects in FY2010 and an additional $90,887 was budgeted to cover costs for these projects in FY2011.

ITEM 7.8.1 – RESEARCH PROJECT 206

IDENTIFICATION: Research Project 206

Title: Continued Laboratory and Field Investigation of Concrete Sealer Products to Extend Concrete Pavement and Bridge Deck Life
Research Agency: Boise State University
Work Plan Approval: Yes, previously approved

OBJECTIVE

- Under actual conditions in southwestern Idaho, this project will exam proper application and long-term field performance of concrete sealers and their effects on the projected longevity of concrete pavement and bridge decks. The study will test various sealers relating to their ability to effectively seal cracks that develop in concrete bridge decks. This will enable ITD personnel to monitor the concrete health and apply appropriate concrete sealers that will provide the extended life of pavements and minimize corrosion of rebar.
- The project objectives are:
    1. Based upon the evaluation of compounds utilized in Phase 1, the available Idaho specific data base on the efficacy of sealers will be expanded to include several types of sealers used more specifically on bridge deck surfaces through a series of laboratory and field tests.
    2. Several field sites on bridge decks in and around the Treasure Valley and/or the State of Idaho will be established with cores taken before and after the sealing process to monitor how well the selected sealers seal the cracks and establish parameter guidance as to effective selection criteria for future field application.
    3. Complete the testing of cores from the first four sealant field sites and correlate the tests of the cores with the laboratory data obtained during Phase One tests to continue the long-term monitoring of sealant performance.

- This project will begin in June 2011 and will be completed by June 2013. The estimated project cost is $100,000 ($80,000 Federal SPR (80/20)).
- Keith Nottingham, District 3 Geologist, is the ITD Project Manager.

PROPOSED ACTIVITY – FY2012

- Test and apply different products to the same and additional sites and bridge decks as in first project. Continue to observe, sample, and test concrete sites as well as bridge decks that have applied sealer products.

COST

- FY 2011 funds were encumbered to cover project costs. As a result, no additional funds are budgeted for FY 2012. The project is included in the Work Program to show program activity in FY 2012.

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 7.8.2 – RESEARCH PROJECT 207

IDENTIFICATION: Research Project 207

Title: Development of an Avalanche Forecasting Model for Highways 12 and 21
Research Agency: Boise State University
Work Plan Approval: Yes, previously authorized

OBJECTIVE

- An operational, real-time avalanche-forecasting model (Snow Slope Stability (SNOSS)) tuned specifically for Highways 12 and 21 will be provided to ITD that forecasters can consult remotely from Lowman. SNOSS will improve process efficiency during difficult forecast periods, which can shorten closures and increase safety to workers and travelers.
- The project objectives are:
  1. Install an in-situ settlement gauge at Banner Summit to provide necessary information on snowpack density and strength.
  2. Provide key parameters to tune the densification process within SNOSS to Highways 12 and 21 from the installed gauge.
  3. Determine exactly when an avalanche occurs by installing time-lapse cameras in the most active avalanche paths.
  4. Validate SNOSS forecast data with information gleaned from the cameras on actual avalanche occurrence.

- This project will begin in October 2010 and will be completed by October 2012. The estimated project cost is $10,000 ($8,000 Federal SPR (80/20)).
- Bill Nicholson, Lead Avalanche Forecaster, is the ITD Project Manager.

PROPOSED ACTIVITY – FY2012

- Install an in-situ settlement gauge. Provide key parameters to tune SNOSS to Highways 12 and 21. Install time-lapse cameras. Complete forecasting model.

COST

- FY 2011 funds were encumbered to cover project costs. As a result, no additional funds are budgeted for FY 2012. The project is included in the Work Program to show program activity in FY 2012.

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 7.8.3 - Research Project 208

IDENTIFICATION: Research Project 208

Title: Defining and Quantifying Rural Congestion
Research Agency: Boise State University
Work Plan Approval: Yes, previously authorized

OBJECTIVE

- Develop an acceptable definition for rural congestion, and data collection methods for identifying rural congestion. ITD will use the results of this project to implement the data collection plan, which will assist with planning and programming improvements to rural highway segments statewide, addressing safety and mobility issues.
- The project objectives are:
  1. Conduct literature search.
  2. Interview state DOT representatives.
  3. Document the findings in a working paper and a PowerPoint presentation of rural congestion definition.
  4. Develop data collection plan to support identifying rural congestion.
  5. Data Collection Plan research report.

- This project will begin in January 2011 and will be completed by October 2011. The estimated project cost is $35,000 ($28,000 Federal SPR (80/20)).
- Robert Koeberlein, Mobility Services Engineer, is the ITD Project Manager.

PROPOSED ACTIVITY – FY2012

- Develop a data collection plan to support identifying rural congestion. Present a PowerPoint presentation, working paper, and final research report.

COST

- FY 2011 funds were encumbered to cover project costs. As a result, no additional funds are budgeted for FY 2012. The project is included in the Work Program to show program activity in FY 2012.

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:

Comments:

ITEM 7.9– 2011 COOPERATIVE RESEARCH PROJECTS (MONTANA STATE UNIVERSITY)

IDENTIFICATION: Research Projects 201 and 209,

Title:	Cooperative Transportation Research Program
Research Agency:	Montana State University (Western Transportation Institute)
Work Plan Approval:	Yes, previously approved

This section describes projects planned for FY2011 with Montana State University. The total cost for the projects is estimated at $231,852. A total of $170,000 is being budgeted for new projects. The remaining costs for Research Project 209 will be paid by ITD's Office of Highway Safety with Safety Flex Funds.

ITEM 7.9.1 - Research Project 201

IDENTIFICATION: Research Project 201

Title:	Evaluating the Effectiveness of Winter Chemicals on Reducing Crashes in Idaho
Research Agency:	Montana State University (WTI)
Work Plan Approval:	Yes, approved in original FY2010 Work Program

OBJECTIVE

- This project will evaluate the effectiveness of each chemical product as it relates to reducing crashes on Idaho highways in order to develop a best management practice of reach climate zone in the state.
- The project objectives are:
  1. Evaluate each chemical and its ability to provide a level of service equal to a bare and wet pavement.
  2. Determine the effectiveness of each chemical at reducing crashes during winter months.
  3. Develop an application matrix taking into account each chemical type, temperature, region of the state, climate zone, crashes, and slide-offs.
- This project will begin in April 2011 and will be completed by October 2012. The estimated project cost is $120,000 ($96,000 Federal SPR (80/20)).
- Steve Spoor, Maintenance Program Manager, is the ITD Project Manager.

PROPOSED ACTIVITY – FY2012

- Review literature. Identify test road segments and review historic winter crash and slide-off data. Review and summarize existing chemical application data and weather/road conditions. Develop and compare incident rates by type of winter treatment. Develop data requirements and train districts. Prepare a final report and make a presentation to ITD management.

COST

- FY 2010 and FY 2011 funds were encumbered to cover project costs. As a result, no additional funds are budgeted for FY 2012. The project is included in the Work Program to show program activity in FY 2012.

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 7.9.2 - Research Project 209

IDENTIFICATION: Research Project 209

Title:	Media Messages and Tools to Reduce Fatal and Serious Injury Single Vehicle Run-Off-the-Road (ROR) Crashes
Research Agency:	Montana State University (WTI)
Work Plan Approval:	Yes, authorized approval

OJBJECTIVE

- This project will find tools to effectively change the behavior of Idaho's target audience that is represented in single vehicle run-off road crashes. The tools will be used to develop an effective media campaign targeted to the identified audience using the methods recommended by the research team. Ultimately, the media campaign would be quantified by a lower death rate on Idaho's rural roads.
- The project objectives are:
  1. List of effective practices, concepts, or tools that have proven effective in other similar states.
  2. Recommended message delivery tools to reach and impact target audience.
  3. Recommended messages that would be most impactful and be best received by this audience.
- This project will begin in April 2011 and will be completed September 28,2012. The estimated project cost is $111,852. SPR funds will provide $50,000 ($40,000 Federal SPR (80/20)). ITD's Office of Highway Safety will provide the remaining $61,852 to cover the cost of this research project using Safety Flex Funds.
- Steve Rich, Principal Research Analyst, is the ITD Project Manager.

PROPOSED ACTIVITY – FY2012

Compare effective practices in states similar to Idaho. Recommend message delivery tools and impactful messages.

COST

- FY 2011 SPR funds and Safety Flex Funds were encumbered to cover the costs for this project. As a result, no additional funds are budgeted for FY2011. The project is included in the Work Program to show program activity in FY 2012.

FY2011 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	8/8/2012
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:	8/14/2012
Approval Letter Received:	☐ YES	☐ NO	Date Received:	
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: The completion date for this project was pushed back to September 28, 2012 to allow additional time for implementation planning and to present the results to the Transportation Board.

ITEM 7.10 – 2011 COOPERATIVE RESEARCH PROJECT (WASHINGTON STATE UNIVERSITY)

IDENTIFICATION: Research Project 210

Title: Cooperative Transportation Research Program
Research Agency: Washington State University
Work Plan Approval: Yes, previously approved

This section describes a project planned for FY2011 with Washington State University. The total cost for the project is estimated at $104,547. FY2012 money is being budgeted for acquisition of a TransTech Soil Density Gauge needed for the project at a cost of $5,800.

ITEM 7.10.1 - Research Project 210

IDENTIFICATION: Research Project 210

Title: Review of Non-nuclear Density Gauges as a Possible Replacement for ITD's Current Nuclear Density Gauges
Research Agency: Washington State University
Work Plan Approval: Yes, previously authorized

OBJECTIVE

- The use of non-nuclear gauges will offer ITD cost savings in training, monitoring, and repair costs associated with ITD's nuclear program. This project will identify a non-nuclear density gauge replacement for the existing aging gauges currently in use.
- The project objectives are:
  1. Look at non-nuclear density gauges used for HMA and unbound materials.
  2. Review density test data that ITD has collected.
  3. Perform side-by-side comparisons of the ITD non-nuclear and nuclear gauges with four- and six-inch cores.
  4. Write a report describing the findings of the comparisons.
  5. Compare ITD's nuclear density gauges and various types of non-nuclear gauges for use on unbound materials. This will be done on several construction projects in the districts and test bases, sub-bases, and soils under various conditions encountered in Idaho.
  6. Develop a recommendation for continued use of nuclear density gauges or recommend a replacement type of non-nuclear gauge.
- This project will begin in May 2011 and will be completed by November 2012. The estimated project cost is $104,547 ($83,638 Federal SPR (80/20)).
- Clint Hoops, Field Service Engineer, is the ITD Project Manager.

PROPOSED ACTIVITY – FY2012

- Test, compare, and evaluate various non-nuclear gauges with ITD's nuclear density gauge. Compare differences in the test results, accuracy, ease-of-use, and cost of the various gauges. Develop a recommendation for continued use of density gauges or recommend a replacement type of non-nuclear gauge. Write a final report

COST

- FY 2011 funds were encumbered to cover the cost for the contract with WSU for this project. $5,800 ($4,600 Federal SPR funds (80/20)) is being budgeted in FY12 for acquisition of a TransTech Soil Density Gauge needed for the study.

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	8/8/2012
Letter Sent to FHWA:	☒ YES	☐ NO	Date Sent:	8/14/2012
Approval Letter Received:	☐ YES	☐ NO	Date Received:	
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments:

A total of $5,400 is being budgeted for the project in FY2012. The additional funds were needed to acquire a non-nuclear gauge that is to be evaluated as part of the study. The use of SPR funds for purchasing the SDG was approved via e-mail on 3/12/2012. (Previously approved in March 2012.)

The budgeted amount of $5,400 was increased to $5,800 to reflect the actual cost for the equipment.

ITEM 7.11 – 2011 COOPERATIVE RESEARCH PROJECT (PRIVATE CONSULTANTS)

IDENTIFICATION: Research Project 205B

Title: Cooperative Transportation Research Program
Research Entity: Gordon Proctor & Associates
Work Plan Approval: Yes, previously approved

ITEM 7.11.1– RESEARCH PROJECT 205B

IDENTIFICATION: Research Project 205B

Title: Assessment of ITD Customer Service Performance 2011
Research Agency: Gordon Proctor & Associates, Inc.
Work Plan Approval: Yes, previously approved

OBJECTIVE

- Analyze and assess the 2011 ITD Customer Survey and compare it with the results of the 2009 Customer Survey. The assessment will be used as a management tool to help target needed improvements within ITD.
- The project objectives are:
    1. Analyze the 2011 customer service survey data.
    2. Assess customer service efforts.
    3. Benchmark ITD customer service efforts against best-in-class peers.
    4. Recommend steps to improve customer service.
    5. Prioritize recommendations by their potential return on investment.
    6. Present information in a report and through oral presentations.
    7. Implementation of recommendations coordinated by ITD's Customer Service Council working with the Department's leadership and the Board.
- The project will begin in August 2011 and will be completed by March 2012. The estimated project cost is $23,190 ($18,552 Federal SPR (80/20)).
- Ned Parrish, Research Manager, is the ITD Project Manager.

PROPOSED ACTIVITY – FY2012

- Review ITD efforts relevant to customer service. Interpret and review customer survey responses. Compare and contrast with other states' results. Findings and recommendations will be summarized into an Executive Summary which will summarize key points for decision makers. Write a final report. Present findings to ITD Board and Legislative Committees.

COST

- FY 2011 funds were encumbered to cover project costs. As a result, no additional funds are budgeted for FY 2012. The project is included in the Work Program to show program activity in FY 2012.

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 7.12 – 2012 CO0PERATIVE RESEARCH PROJECT (Applied Research Associates)

IDENTIFICATION: Research Project 211

Title: Cooperative Transportation Research Program
Research Agency: Applied Research Associates (AASHTO)
Work Plan Approval: Previously Approved

This section describes a project planned for FY2012 with Applied Research Associates. The total cost for the project is estimated at $69,600.

ITEM 7.12.1– RESEARCH PROJECT 211

IDENTIFICATION: Research Project 211

Title: DARWin-ME Implementation/Training
Research Agency: AASHTO – Applied Research Associates, Inc. (ARA)
Work Plan Approval: Previous Approved

OBJECTIVE

- This project will build upon the work done in Research Project 193, Implementation of Mechanistic-Empirical Pavement Design. ARA will work to integrate Idaho-specific data developed in RP 193 with the final AASHTOWare software. ARA will also provide training to ITD staff in the use of the new software.
- The project objectives are:
    1. To customize DarWin-Me with data specific to Idaho site conditions and materials.
    2. To develop Idaho specific training material.
    3. To train ITD staff on the DARWin-ME software focusing on flexible pavement design, pavement design and rehabilitation design.
    4. To develop a long -term road map to guide future development of the DARWin-ME software tool at ITD.
- This project will begin in July 2012 and will be completed by June 2013. The estimated project cost is $69,600 ($27,680 Federal SPR (80/20)).
- Mike Santi, Materials Engineer, is the ITD Project Manager.

PROPOSED ACTIVITY – FY2012

- The development of the Idaho specific training material, implementation and training will all take place in FY 2013.

COST

- $35,000 of the cost of this project was funded by state dedicated funds. The remaining $34,600 will be paid with FY2011 SPR funds previously encumbered for RP 211.

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	6/14/2012
Letter Sent to FHWA:	☒ YES	☐ NO	Date Sent:	6/21/2012
Approval Letter Received:	☒ YES	☐ NO	Date Received:	6/28/2012
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: This project was first approved by the RAC for inclusion in the 2011 Work Program. Because of delays in getting the final software, and illness in the principal investigator's family, the project scope was revised and Applied Research Associates selected to perform the needed work.

ITEM 7.13– 2012 COOPERATIVE RESEARCH PROJECT (WASHINGTON STATE UNIVERSITY)

IDENTIFICATION: Research Project 213

Title: Cooperative Transportation Research Program
Research Agency: Washington State University
Work Plan Approval: Previousy Approved

This section describes a project planned for FY2012 with Washington State University. The total cost for the project is estimated at $190,000.

ITEM 7.13.1 - Research Project 213

IDENTIFICATION: Research Project 213

Title: Dynamic Characterization of Reclaimed Asphalt Pavement (RAP)-Mixes in Idaho
Research Agency: Washington State University
Work Plan Approval: Previously Approved

OBJECTIVE

- This project will assess the effect of RAP on the performance of ITD's HMA and WMA pavements
- The project objectives are:
  1. To evaluate how varying the percentage of RAP used in Idaho HMA and WMA mix designs impacts pavement performance in terms of: a) fatigue cracking; b) thermal cracking; c) rutting; d) roughness.
  2. To identify the critical factors in RAP that affect HMA and WMA performance.
  3. To develop guidelines that ITD could consider to update its current RAP specification to improve HMA and WMA pavement performance.
- This project will begin in July 2012 and will be completed by October 2014. The estimated project cost is $190,000($152,000 Federal SPR (80/20)).
- Mike Santi, Materials Engineer, is the ITD Project Manager.

PROPOSED ACTIVITY – FY2012

- Review literature. Develop HMA and WMA mixtures with variable percentage of RAP. Recruit HMA and WMA plant-produced mixes containing RAP from different ongoing construction projects in Idaho. Determine the actual PG grade of the combined binder in the mixtures containing RAP. Conduct dynamic modulus testing on mixtures at different frequency and temperature levels.

COST

- A total of $150,000 ($120,000 Federal SPR funds (80/20)) is being budgeted to cover planned costs for this project. The remaining $40,000 needed for the project will be budgeted in FY2013.

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	6/14/2012
Letter Sent to FHWA:	☒ YES	☐ NO	Date Sent:	6/21/2012
Approval Letter Received:	☒ YES	☐ NO	Date Received:	6/26/2012
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: This project was approved by ITD's Research Advisory Council in July 2011 and by FHWA in October 2011. The amount budgeted for the project is being increased to allow for testing of WMA pavement as HMA pavements. Also, Haifang Wen from Washington State University was added as the lead principal investigator. He will work with Fouad Bayomy from the University of Idaho, who will serve as a co-principal investigator.

ITEM 7.14 – 2012 COOPERATIVE RESEARCH PROJECT (UNIVERSITY OF IDAHO)

IDENTIFICATION: Research Projects 214, 216, 218, 222, and 223

Title: Cooperative Transportation Research Program
Research Agency: TBD
Work Plan Approval: Research Projects 214, 216, 218 were previously approved, projects 222 and 223 are pending approval

This section describes projects planned for FY2012 with the University of Idaho. The total cost for the projects is estimated at $195,300. The projects were selected for funding by ITD's Research Advisory Council in July and December 2011 and March 2012. A total of $1,200 is being budgeted for the projects in FY2012. Other costs of theses projects will be paid with funds originally budgeted for Research Project 211 and savings from completed projects.

ITEM 7.14.1 - Research Project 214

IDENTIFICATION: Research Project 214

Title: Positive Community Norms Survey
Research Agency: University of Idaho (Social Science Research Unit)
Work Plan Approval: Yes, previously approved

OBJECTIVE

- This survey will establish a baseline understanding of the positive norms that exist in Idaho, plus reveal the gaps in knowledge and perceived norms with regard to impaired driving. These gaps will indicate the most effective opportunities for future communication efforts (i.e. Media Messages) to change driver behavior.
- The project objectives include:
  1. Measuring self-reported attitudes, behaviors and perceptions of norms of adult drivers in Idaho regarding alcohol and driving.
  2. Obtaining information that can help establish a baseline understanding of the positive norms that exist in Idaho as well as reveal the gaps in knowledge and perceived norms. These gaps indicate the most effective opportunities for future communication efforts to change driver behavior and reduce fatalities.
  3. Providing information that researchers can use to identify important messages that can be shared with key leaders at the community, county and state levels to support efforts to reduce impaired driving. These leaders include local law enforcement officials, county leaders, and state policy makers.
- This project will begin in October 2011 and will be completed by December 2011. The estimated project cost is $17,500 ($14,000 Federal SPR (80/20)).
- Steve Rich, Principal Research Analyst, is the ITD Project Manager.

PROPOSED ACTIVITY – FY2012

- Conduct 500 telephone interviews with Idaho citizens. Measure and establish a baseline of understanding about impaired driving. Establish guidelines for the most effective media campaigns. Share findings with policy makers and first responders.

COST

- No funds are budgeted for this project in FY2012. Costs for the project will be paid from funds originally budgeted for RP211 in FY2011.

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	10/5/2011
Letter Sent to FHWA:	☒ YES	☐ NO	Date Sent:	10/7/2011
Approval Letter Received:	☒ YES	☐ NO	Date Received:	10/21/2011
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: This project was approved by ITD's Research Advisory Council in September 2011 and is being added to the Work Program as a new project for FY 2012. Project costs will be paid from funds originally budgeted for RP 211 in FY 2011.

ITEM 7.14.2 - Research Project 216

IDENTIFICATION: Research Project 216

Title: Improving Safety at Signalized Intersections During Inclement Weather Conditions – A Real-Time Weather-Responsive System

Research Agency: University of Idaho

Work Plan Approval: Previously Approved

OBJECTIVE

- The goal of this project is to develop and pilot a real-time weather-responsive traffic signal control system that can improve safety during inclement weather by adjusting signal time to allow longer clearance intervals when roads are slick.
- The project objectives include:
  1. Investigating methods to obtain accurate, location-specific information on weather and road conditions.
  2. Defining appropriate system specifications.
  3. Designing system hardware, the interfacing technology, system operational software, and contingency management systems.
  4. Field testing of the system developed through this research.
- This project will begin in April 2012 and will be completed by August 2013. The estimated project cost is $73,800 ($59,120 Federal SPR (80/20)). The budget for the project includes $72,600 for the contract with the University of Idaho and $1,200 for ITD purchase of needed equipment. The equipment will be used by the researchers and returned to ITD's Mobility Services Section at the completion of the project.
- Brent Jennings, Highway Safety Program Manager, is the ITD Project Manager.

PROPOSED ACTIVITY – FY2012

- During FY 2012, researchers will perform the literature review, identify pilot intersections for field implementation, design the system (including determination of system specification), and begin system verification and timing analysis.

COST

A total of $1,200 ($960 Federal SPR funds (80/20)), is being budgeted to purchase computer equipment needed for the project. The remaining project costs will be paid with funds originally budgeted for RP211 in FY11.

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	5/15/2012
Letter Sent to FHWA:	☒ YES	☐ NO	Date Sent:	5/18/2012
Approval Letter Received:	☒ YES	☐ NO	Date Received:	5/23/2012
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: The project was originally approved by FHWA in December 2011 and use of capital equipment was approved by FHWA in May 2012. This computer equipment will be returned to ITD at the end of the project. Other project costs will be paid from funds originally budgeted for RP 211 in FY2011.

ITEM 7.14.3 - Research Project 218

IDENTIFICATION: Research Project 218

Title: Evaluation of the Impact of Differential Speed Limits on Crash Rates in Idaho
Research Agency: University of Idaho
Work Plan Approval: Previously Approved

OBJECTIVE

- The goal of this project is to evaluate the impact of differential speed limits on crash rates in Idaho. In 1998, legislation was passed that lowered the speed limit for certain classes of trucks on rural interstates in Idaho. A study funded through ITD's Research Program and completed in December 2000, found that crash rates had not increased because of the policy change. During the 2012 legislative session, policy makers considered legislation that would have eliminated the differential speed limit requirement for heavy trucks. Policymakers requested further research before making a policy change. This project would synthesize currently available research on the effects of differential speed limits and analyze Idaho crash data from before and after the policy was established.
- The project objectives include:
  1. Reviewing available research on the relationship between differential speed limits and crash rates in other states.
  2. Comparing crash data for Idaho Interstates from before and after the imposition of differential speed limits.
  3. Assessing whether there has been a significant change in crash rates on Idaho's rural interstates that is attributable to speed differences between heavy trucks and other vehicles.

  This project will begin in April 2012 and will be completed by November 2012. The estimated project cost is $39,000 ($31,200 Federal SPR (80/20)).
  Greg Laragan, Highway Operations Engineer, is the ITD Project Manager.

PROPOSED ACTIVITY – FY2012

- During FY2012, researchers will review and summarize available research, compare before and after crash data for Idaho's rural interstates, analyze the data to determine if differential speed limits have affected crash rates, and prepare a preliminary report of the study findings.

COST

- No FY2012 funds are being budgeted for this project. Costs for the project will be paid with funds originally budgeted for RP 211 in FY2011.

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	3/21/2012
Letter Sent to FHWA:	☒ YES	☐ NO	Date Sent:	3/22/2012
Approval Letter Received:	☒ YES	☐ NO	Date Received:	3/26/2012
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: This project was approved by ITD's Research Advisory Council and by FHWA in March 2012. Costs for the project will be paid with funding originally budgeted for RP211, which was rescoped in June 2012 with FHWA approval.

ITEM 7.14.4 - Research Project 222

IDENTIFICATION: Research Project 222

Title: Improving Passing Lane Safety and Efficiency
Research Agency: University of Idaho
Work Plan Approval: Pending Approval

OBJECTIVE

- The goal of this project is to evaluate low-cost alternatives that have the potential to improve the safety of passing lanes in Idaho's two-lane rural highways.
- The project objectives include:
  1. Examining the effectiveness of improved signage on the safety and efficiency of the passing lane operations.
  2. Examining the effectiveness of alternative striping and pavement marking on reducing the speed at passing lance locations.
  3. Documenting the characteristics of passing lane crashes in Idaho's two-lane rural state highways.

  The estimated duration of the project is eighteen months and the estimated cost is $25,000 ($20,000 Federal SPR (80/20)).

  Brent Jennings, Highway Safety Program Manager, is the ITD Project Manager.

PROPOSED ACTIVITY – FY2012

- During FY2012, a project agreement wil be established and researchers will begin documenting the characteristics of passing lane crashes in Idaho for 2007-2011 and reviewing alternatives for passing lane signage and pavement markings.

COST

No FY2012 funds are budgeted for this project. Project costs will be paid with funds originally budgeted for RP 211 in FY2011.

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	8/8/2012
Letter Sent to FHWA:	☒ YES	☐ NO	Date Sent:	8/14/2012
Approval Letter Received:	☐ YES	☐ NO	Date Received:	
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: This project was approved by ITD's Research Advisory Council and by FHWA in April 2012. Costs for the project will be paid with funding originally budgeted for RP211, which was rescoped in June 2012 with FHWA approval.

ITEM 7.14.5 - Research Project 223

IDENTIFICATION: Research Project 223

Title: Evaluation of "Idashield" Signs at Idaho Railroad Crossings
Research Agency: University of Idaho
Work Plan Approval: Pending Approval

OBJECTIVE

- The goal of this project is to determine whether the use of the Idashield signs improves safety at passive (non-signalized) public rail-highway crossings. The research will also determine the effectiveness of the signs at reducing vehicle-rail crashes in Idaho.
- The project objectives include:
  1. Reviewing the relevant literature on the safety benefits of the Idashield and similar signs.
  2. Analyzing Idaho crash data from both before and after the Idashield signs were installed at Idaho railroad crossing to assess the impact on crashes.
  3. Studying the impact of the signs on driver behavior at railroad-road crossings.

The estimated duration of this project is fourteen months and the estimated cost is $40,000 ($32,000 Federal SPR (80/20)).
Robert Linkhart, Rail Program Manager, is the ITD Project Manager.

PROPOSED ACTIVITY – FY2012

- During FY2012, we will identify possible researchers, select a researcher for the project, and establish the project agreement.

COST

No FY2012 funds are budgeted for this project. Project costs will be paid with funds originally budgeted for RP 211 in FY2011.

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	8/8/2012
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:	8/14/2012
Approval Letter Received:	☐ YES	☐ NO	Date Received:	
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: This project was approved by ITD's Research Advisory Council in March 2012 and is being added to the Work Program as a new project for FY2012. Costs for the project will be paid with funding originally budgeted for RP211, which was rescoped in June 2012

ITEM 7.15 – 2012 COOPERATIVE RESEARCH PROJECT (Montana State University)

IDENTIFICATION: Research Project 217

Title: Cooperative Transportation Research Program
Research Agency: Montana State University
Work Plan Approval: Previously approved

This section describes a project planned for FY2012 with Montana State University. The total cost for the project is estimated at $120,000.

ITEM 7.15.1- Research Project 217

IDENTIFICATION: Research Project 217

Title: Native Plants for Roadside Revegetation – Field Evaluation and Best Practices Identification
Research Agency: Montana State University
Work Plan Approval: Previously Approved

OBJECTIVE

- The goal of this project is to assess the performance of native plants for revegetation of disturbed road construction sites in Idaho and identify best practices ITD staff/contractors should follow for revegetation projects using native plants.
- The project objectives include:
  1. Assessing the performance of native vegetation planted at project sites during Phase 1 of the study.
  2. Evaluating the performance of native plants used for revegetation at other ITD construction sites that were not part of the original research.
  3. Developing/defining best practices for establishment of native plants at sites disturbed by road construction activities.

  This project will begin in June 2012 and will be completed by December 2013. The estimated project cost is $120,000 ($96,000 Federal SPR (80/20)).
- Cathy Ford, Roadside Program Manager, is the ITD Project Manager.

PROPOSED ACTIVITY – FY2012

- During FY 2012, researchers will visit sites included in Phase 1 of the study to assess the performance of native species, select other ITD project sites where native plants were used for revegetation, review revegetation plans for these sites, and visit the selected project sites to assess performance. The researchers will also begin efforts to identify/develop best practices for revegetation projects using native plants.

COST

- A total of $120,000 ($96,000 Federal SPR funds (80/20)), is being budgeted to cover planned costs for this project in FY2012.

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	6/14/2012
Letter Sent to FHWA:	☒ YES	☐ NO	Date Sent:	6/21/2012
Approval Letter Received:	☒ YES	☐ NO	Date Received:	6/26/2012
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: This project was approved by ITD's Research Advisory Council in December 2011 and by FHWA in March 2012. FHWA approved a change in the researchers for the project in June 2012. The research was shifted from the University of Idaho to Montana State University.

ITEM 7.16 – 2012 COOPERATIVE RESEARCH PROJECT (BOISE STATE UNIVERSITY)

IDENTIFICATION: Research Project 219

Title: Cooperative Transportation Research Program
Research Agency: Boise State University
Work Plan Approval: Previously Approved

This section describes a project planned for FY2012 with Boise State University. The total cost for the project is estimated at $100,000. A portion of the cost, $69,000 is budgeted for FY12. Remaining funds needed for this multi-year project will be budgeted in FY2013.

ITEM 7.16.1 - Research Project 219

IDENTIFICATION: Research Project 219

Title: Development of a Real-Time Avalanche Detection System for High Risk Areas in Idaho
Research Agency: Boise State University
Work Plan Approval: Previously Approved

OBJECTIVE

- The goal of this project is to build on past research and develop a system that can be used to remotely monitor major avalanche paths and detect avalanche activity. The work will focus on developing and deploying a robust infrasound sensor array in the "Avalanche Alley" section of State Highway 21 and develop software.
- The project objectives include:
  1. Installing an infrasound sensor array capable of detecting avalanche events occurring within the study area.
  2. Analyzing and interpreting sensor data over two winter seasons.
  3. Developing user-friendly software that ITD staff can use to monitor avalanche activity in real time.
  4. Training ITD staff regarding the use of this software.
- The expected duration of this project is 24 months. The total cost of the project is estimated at $100,000 ($80,000 Federal SPR (80/20)).
- Bill Nicholson, Lead Avalanche Forecaster in District 3, is the ITD Project Manager.

PROPOSED ACTIVITY – FY2012

- During FY2012, researchers will Initiate the project, begin experimenting with different array configurations, and begin research to determine how to identify potential avalanche events from signal data.

COST

- A total of $69,000 ($55,200 Federal SPR funds (80/20)), is being budgeted to cover planned costs for this project in FY2012. The remaining costs for the project will be budgeted in FY2013 and covered by savings from other BSU projects.

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	3/21/2012
Letter Sent to FHWA:	☒ YES	☐ NO	Date Sent:	3/22/2012
Approval Letter Received:	☒ YES	☐ NO	Date Received:	3/26/2012
Removed from Program:	☐ YES	☐ NO	Date Removed:	
Comments: This project was approved by ITD's Research Advisory Council in December 2012 and is being added as a new project for FY2012.				

ITEM 7.17 – 2012 COOPERATIVE RESEARCH PROJECT (IDAHO TRANSPORTATION DEPARTMENT)

IDENTIFICATION: Research Project 215

Title: Cooperative Transportation Research Program
Research Agency: Idaho Transportation Department
Work Plan Approval: Yes, previously approved

This section describes a project planned for FY2012 with the Idaho Transportation Department. The total cost for the project is estimated at $130,000. The Research Program will provide $24,600 for the project, with the remaining funding coming from ITD districts.

ITEM 7.17.1 - Research Project 215

IDENTIFICATION: Research Project 215

Title: Spring Breakup Study
Research Agency: Idaho Transportation Department
Work Plan Approval: Yes, previously approved

OBJECTIVE

- Using publicly available weather data, this project will develop a procedure to accurately predict roadbed conditions for specific road sections. This will be used to impose Spring Breakup load limits. The secondary objective is to determine the appropriate duration of spring breakup load limits using the roadbed moisture and Falling Weight Deflectometer (FWD) information collected during this project.
- The project objectives include:
  1. Collecting and analyzing data on roadbed moisture and the structural capacity of pavements during the spring thaw period using sensor equipment and FWD testing.
  2. Comparison of FWD data with moisture records to determine moisture content and average time after beginning of thaw at which load restrictions can be rescinded.
  3. Determining whether weather information (daily high and low temperatures) for specific road sections can be used to accurately predict timing for imposition of Spring Breakup Load Limits.
  4. Developing a defensible, data based policy for application of Spring Breakup Limits that can be applied to State and Local road sections in Idaho. Adoption of such a policy could decrease ITD costs for annual patching and other repairs, and extend pavement life.
- The expected duration of this project is 24 months. The total cost of the project is estimated at $130,000, with the Research program contributing $21,300 ($17,000 Federal SPR (80/20)) for purchase of sensor and data logging equipment that will be used on the project. Other project costs (primarily staff time for installation of sensors, performing FWD testing, data collection and data analysis) will be paid for with state dollars contributed by the districts.
- Thomas Haynes, District 3 Staff Engineer, is the ITD Project Manager.

PROPOSED ACTIVITY – FY2012

- Install sensors and data loggers at ten locations selected by ITD district staff. Collect weather station data. Download instrumentation data. Conduct FWD testing.

COST

- A total of $21,300 ($17,000 Federal SPR funds (80/20)), is being budgeted to cover planned costs for this project in FY2012. The remaining $108,700 will be covered with state funds contributed by the districts.

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	3/21/2011
Letter Sent to FHWA:	☒ YES	☐ NO	Date Sent:	3/22/2011
Approval Letter Received:	☒ YES	☐ NO	Date Received:	3/26/2012
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: This project was previously approved by FHWA in October 2011. The amount of SPR $ was reduced because some of the needed sensor equipment was purchased with state funds prior to project approval. As a result, the budgeted amount was reduced by $8,700.

ITEM 7.18 – 2012 COOPERATIVE RESEARCH PROJECT (CLAREMONT GRADUATE UNIVERSITY)

IDENTIFICATION: Research Project 220

Title: Cooperative Transportation Research Program
Research Agency: Claremont Graduate University
Work Plan Approval: Previously Approved

This section describes a project planned for FY2012 with Claremont Graduate University. The total cost for the project is estimated at $150,000.

ITEM 7.18.1 - Research Project 220

IDENTIFICATION: Research Project 220

Title: Crash Help – Development of Communication Tools to Improve Response to Serious Injury Crashes During the "Golden Hour"
Research Agency: Claremont Graduate University
Work Plan Approval: Previously Approved

OBJECTIVE

- The goal of this study is to reduce the adverse impacts of motor vehicle crash (MVC) trauma by developing tools that facilitate communication of patient information from Emergency Medical Services (EMS) providers to hospital personnel during the "Golden Hour" following serious injury crashes. Claremont Graduate University researchers have done significant work in this area, including pilot testing of previously developed tools in the Treasure Valley. This project supports continued development and testing of these tools and expands the testing to rural areas of the state.
- The project objectives include:
  1. Continuing CrashHelp field test operations for the Boise, Idaho region for an additional 6 months. This work will validate the technology and allow for future evaluation.
  2. Continuing to enhance CrashHelp software features and overall functionality including increasing simplicity of use, security, privacy of information, etc.
  3. Exploring and planning for field test operations into one rural region of Idaho.
  4. Initiating a field trial of the tools in one rural area in Idaho, including training of medical and transportation personnel.
  5. Evaluating the performance of the tools in the Treasure Valley and rural field tests.
- The expected duration of this project is 12 months. The total cost of the project is estimated at $150,000 ($120,000 Federal SPR (80/20).
- Brent Jennings, Highway Safety Program Manager, is the ITD Project Manager.

PROPOSED ACTIVITY – FY2012

- During FY 2012, researchers will continue field testing of the Crash Help Tools in the Treasure Valley, continue work to develop and refine the tools, select a rural area in Idaho for field testing with input from ITD and other study partners, and initiate field testing of the tools in a rural setting in Idaho.

COST

- A total of $ 150,000 ($120,000 Federal SPR funds (80/20)) is being budgeted to cover planned costs for this project in FY2012.

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	3/21/2012
Letter Sent to FHWA:	☒ YES	☐ NO	Date Sent:	3/22/2012
Approval Letter Received:	☒ YES	☐ NO	Date Received:	3/26/2012
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: This project was approved by ITD's Research Advisory Council in December 2011 and is being added to the Work Program as a new project for FY2012.

ITEM 7.19 – 2012 COOPERATIVE RESEARCH PROJECT (PRIVATE CONSULTANTS)

IDENTIFICATION: Research Project 221

Title: Cooperative Transportation Research Program
Research Agency: Cambridge Systematics
Work Plan Approval: Previously Approved

This section describes a project planned for FY2012 with Claremont Graduate University. The total cost for the project is estimated at $99,630.

ITEM 7.19.1 - Research Project 221

IDENTIFICATION: Research Project 221

Title: Economic Analysis for Project Selection
Research Agency: Cambridge Systematics
Work Plan Approval: Previously Approved

OBJECTIVE

- The goal of this study is to provide information to assist ITD management and staff in incorporating economic analysis into transportation planning and decision-making activities.
- The project objectives include:
  1. Synthesizing state DOT best practices for using economic analysis into the project selection process, and identifying DOT goals and performance measures in the economic opportunity area.
  2. Assessing ITD's readiness to incorporate economic analysis into the project selection process
  3. Identifying the steps that ITD must take before integrating economic analysis into planning and decision-making activities.
- The expected duration of this project is approximately 4 months. The total cost of the project is estimated at $99,630. The project will be jointly funded with SPR funds from the Planning/Program Management Section (See Item 2.1) and the Research Program.
- Erika Bowen, Planning/Program Management Manager, is the ITD Project Manager.

PROPOSED ACTIVITY – FY2012

- Prepare white paper summarizing uses of economic analysis information by other transportation agencies
- Conduct workshops with ITD leadership and key staff regarding the use of economic analysis for project selection
- Evaluation the institutional, technical, and policy environment at ITD regarding economic analysis

COST

- A total of $ 10,200 ($8,200 Federal SPR funds (80/20)) is being budgeted to cover the Research Program's contribution to this project in FY2012.

FY2012 CHANGES

Amendment Added:	☒ YES	☐ NO	Date Amended:	5/15/2012
Letter Sent to FHWA:	☒ YES	☐ NO	Date Sent:	5/18/2012
Approval Letter Received:	☒ YES	☐ NO	Date Received:	5/23/2012
Removed from Program:	☐ YES	☐ NO	Date Removed:	

Comments: This project was approved by ITD's Research Advisory Council in May, 2012 and is being added to the Work Program as a new project for FY2012.

NON-SPR

PLANNING AND RESEARCH

ITEM 8.0 NON SPR PLANNING AND RESEARCH

This item outlines the Non SPR planning and research projects administered by Transportation Performance and the Local Highway Technical Assistance Council (LHTAC). Descriptions of each project are provided below.

ITEM 8.1 – PUBLIC TRANSPORTATION ADMINSTRATION GRANT (P1175SA)

ITD CONTACT: **Randy Kyrias**
Transportation Performance Administrator
(208) 334-8281

OBJECTIVES

- Support the growth and sustained operation of integrated mobility systems serving citizens of Idaho.
- Continually support the role of the general public and other mobility stakeholders in prioritizing the needs, strategies, and projects identified in the local, district, and statewide mobility planning processes.
- In developing and administering mobility programs for the state, recognize the importance of economic, social, safety, and environmental health of local communities, districts, and the state.
- Develop and implement funding processes that encourage multi-modal flexibility, with state and local commitment to integrated transportation and land use planning.
- Identify and promote additional partnerships and mobility funding opportunities.
- Work with Metropolitan Planning Organizations (MPOs) to balance the distribution of funds.
- Facilitate the Statewide Transportation Improvement Program (STIP) administration of transit-related projects from MPOs.
- Coordinate mobility among Idaho state agencies providing human services and public transportation services, and incorporate livability considerations from other state agencies, e.g. Idaho Department of Environmental Quality, Department of Commerce/Tourism.
- Lead the realignment of program goals and objectives with the Long Range Transportation Plan objectives to improve mobility, enhance safety, and support economic vitality.

METHODOLOGY

Develop Memorandums of Understanding with planning partners; enable and support the Community Transportation Association of Idaho (CTAI) to lead planning, training, and rideshare opportunities. Coordinate and participate in planning activities with other divisions, local governments, and MPOs. Work with other state agencies providing public transportation funds to coordinate services and eliminate barriers to coordination. Provide staff assistance and guidance to the Idaho Mobility Council; consisting of Public Transportation Advisory Council members, representatives from the Interagency Working Group for Public Transportation Services and all mobility related advisory councils and committees. Research and facilitate application for discretionary funding opportunities. Facilitate and assist with the development of the STIP and with the process to modify the STIP, and provide interpretation and guidance for Federal Transit Administration (FTA) formula funding programs. Develop and implement structures and processes to leverage FTA planning and program funds with other U.S. Department of Transportation and other funding.

FY2012 PRODUCTS

- Memorandums of Understanding with mobility partners
- Update of seventeen local mobility coordination plans, as necessary
- Integration of local mobility coordination plans with MPO Plans, local comprehensive plans, and ITD Highway corridor plans
- Statewide mobility balancing organizational structure and process
- Additional discretionary funding opportunities for mobility and public transportation projects
- Mobility policies
- Reporting of mobility performance data including reporting to the rural National Transit Database.
- Reporting of transit and mobility projects in the Idaho STIP
- 511, trip planning, and advanced public transportation system technologies
- Idaho Transportation Reimbursement, Integration and Performance System (I-TRIPS)

PUBLIC TRANSPORTATION ADMINISTRATION GRANT BUDGET

Federal Aid	$99,300	+	**Match**	$24,800	=	**$124,100**

FY2012 CHANGES

Amendment Added:	☐ YES ☐ NO	Date Amended:	
Letter Sent to FHWA:	☐ YES ☐ NO	Date Sent:	
Approval Letter Received:	☐ YES ☐ NO	Date Received:	
Removed from Program:	☐ YES ☐ NO	Date Removed:	
Comments:			

ITEM 8.2 – SAFE ROUTES TO SCHOOL PROGRAM (KN 12542)

ITD CONTACT: **Jo O'Connor**
Safe Routes to School (SR2S) Coordinator
(208) 334-8272

OBJECTIVES

- Develop and implement funding processes that encourages non-motorized transportation choices, with state and local commitment to integrated school transportation.
- Support projects that assist communities developing policies that improve school siting and land use planning.
- Support the development of demonstration projects that assist local communities with planning strategies for active school transportation choices.
- Provide training for the development of school travel action plans that stakeholders use in prioritizing the needs, strategies, and projects identified in the local planning processes for local Idaho communities.
- Provide technical assistance to local communities awarded SR2S infrastructure project funding.
- Integration of the Safe Routes to School program with other programs promoting mobility, livability, and sustainability.
- Lead the realignment of program goals and objectives with the Long Range Transportation Plan objectives to improve mobility, enhance safety, and support economic vitality.

METHODOLOGY

Develop Professional Service Agreements with planning partners; enable and support planning workshops, and work with local stakeholders. Provide staff assistance and coordinate and participate in planning activities with other divisions, local governments, and schools. Facilitate and assist with the development of the STIP and with the process to modify the STIP, and provide interpretation and guidance for Federal Highway Administration (FHWA) SR2S formula funding program. Administer an annual application process. Facilitate involvement of key stakeholders through the Safe Routes to School Advisory Committee.

FY2012 PRODUCTS

- SR2S Local Project Guide
- School Siting Local Policy Guide
- Engineering and design assistance

SAFE ROUTES TO SCHOOL PROGRAM BUDGET

Federal Aid	$180,000	+	**Match**	$0	=	**$180,000**

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

ITEM 8.3 – LHTAC Study #1)

IDENTIFICATION: LHTAC Technology Transfer Study in Western States

Title: Idaho Local Federal Aid Process Study
Research Agency: TBD
Work Plan Approval: Yes, previously authorized

OBJECTIVE

- Project overview: Research Department of Transportation (DOT) local federal aid process in the following states: Washington, California, Oregon, Utah, Nevada, and Arizona. The consultant will then summarize the findings in a technical memorandum.
  - The project objectives are:
    1. Identify key differences in how the above western states manage local Federal-aid projects.
    2. Determine the differences between state and local road construction standards (if any).
    3. Recommend possible changes to ITD/LHTAC local Federal-aid procedures based on proven efficiencies identified in the study
  - Key tasks include:
    1. Research local agency guidelines manuals where present to establish similarities and differences in how local Federal-aid programs are administered.
    2. Interview state agency personnel responsible for administering and providing oversight of local Federal-aid programs to evaluate how effective the process is and any suggestions to improve current practices.
    3. Interviews with local sponsors about what they think works well and how things might be improved.
    4. Preparation of a matrix of key similarities and differences of administrative procedures.
    5. Establish whether states allow local roads standards that are different from state standards.
    6. Evaluate key differences between how the individual states manage local Federal-aid projects and rate those that likely would result in increased efficiency or streamline the process.
    7. Recommendations.
  - This project will begin in July 2011 and will be completed by March 2012.
  - Todd Bartolome, Construction Engineering Manager, LHTAC will serve as Project Manager. The project advisors are Monica Crider, Local Roads Engineer, ITD and Jason Giard, Operations Engineer for Local Programs, FHWA Idaho Division Office.

PROPOSED ACTIVITY – FY2012

- LHTAC may at its discretion expand the consultant's scope to use findings of the study to assist LHTAC in implementation measures. This task will include, but is not limited to, coordinating and orchestrating meetings with the state, local agencies and other stakeholders (i.e. LHTAC, ITD, IAC, AIC, IAHD, ACEC) to discuss concepts, procedures and policies.
- LHTAC may at its discretion expand the consultant's scope to include assistance with drafting and developing language, policies, and procedures for a local federal aid process manual.

COST

- A total of $120,000 from STP Rural funds is being budgeted to cover planned costs for this project.

LHTAC STUDY #1

Federal Aid	$120,500	+	**Local Match**	$9,500	=	**$130,000**

FY2012 CHANGES

Amendment Added:	☐ YES	☐ NO	Date Amended:
Letter Sent to FHWA:	☐ YES	☐ NO	Date Sent:
Approval Letter Received:	☐ YES	☐ NO	Date Received:
Removed from Program:	☐ YES	☐ NO	Date Removed:
Comments:			

COST SUMMARY

PART 1: WORK PROGRAM PLANNING - F12901A
TOTAL PROGRAM FUNDING SUMMARY

Item #	(FC)	Work Program Task	SPR/FED	State Match	FY12 Work Program
1.0		**Geographic Information Systems**			
1.1	CF	Digital Mapping and GIS	232,300	58,100	290,400
1.2	BE	Location Referencing system	114,500	28,600	143,100
1.3	BA	Local Road Program	128,600	32,100	160,700
1.4	CG	GIS Program Development	122,400	30,600	153,000
		Subtotal:	**597,800**	**149,400**	**747,200**
2.0		**Planning/Program Management**			
2.1	FF	Statewide Highway Planning	143,500	35,900	179,400
2.2	FB	Highway Classifications and Systems Adjustments	32,000	8,000	40,000
2.3	GA	Statewide Planning and Project Mgmt	50,300	12,600	62,900
2.4	GD,GO, GP	IPLAN iInformation Delivery System	390,100	97,500	487,600
		Subtotal:	**615,900**	**154,000**	**769,900**
3.0		**Pavement Analysis**			
3.1	FH	Assess Condition of the State Highwy System	46,400	11,600	58,000
3.2	FH	Analyse & Model Transportation Systems	119,400	29,800	149,200
3.3	FL	Report Transportation Data	2,900	700	3,600
		Subtotal:	**168,700**	**42,100**	**210,800**
4.0		**Roadway Data**			
4.1	DA	Vehicle Volumes, Classification Weight, and Characteristics	921,200	230,300	1,151,500
4.2	FJ	State Highway System Inventory	235,100	58,800	293,900
4.3	FK	Highway Systems Monitoring & Reporting	78,800	19,700	98,500
		Subtotal:	**1,235,100**	**308,800**	**1,543,900**
5.0		**Transportation Performance**			
5.1	TE	Transportation Enhancement Planning and Management	0	0	0
5.2	FI, FR, FN	Program Development, Planning and Coordination	167,900	42,000	209,900
5.3	FP	Scenic Byways	126,200	31,500	157,700
5.4	FP	Congestion Mitigation and Air Quality	0	0	0
5.5	FG	Performance Management	63,100	15,800	78,900
		Subtotal:	**357,200**	**89,300**	**446,500**
6.0		**Transportation Investment Programming**			
6.1	TI	Transportation Investment Programming	446,600	111,600	558,200
		Subtotal:	**446,600**	**111,600**	**558,200**
		Total SP Planning:	**3,421,300**	**855,200**	**4,276,500**

PART II: WORK PROGRAM PLANNING - F12901R
TOTAL PROGRAM FUNDING SUMMARY

Item #	Phase (FC)	Work Program Task	SPR/FED	State Match	FY12 Work Program	Technical Contact
7.1	RB	**National Cooperative Highway Research Program** *ITD's contribution to support the NCHRP Program. Qualifies for 100% federal dollars.*	297,300	0	**297,300**	Ned Parrish
7.2	RC	**Expenses for TRB and AASHTO RAC Travel**	1,500	400	**1,900**	Ned Parrish
7.3	RE	**AASHTO Engineering Technical Service Programs** *Programs supported Include: APEL, NTPEP, SICOP, TIG,AETO, TSP [2], DAMS, & LRFD*	45,400	11,300	**56,700**	Varies - See Section 7.3
7.4	RF	**Pooled Fund Studies** *ITD's contributions to various cooperative studies with other states and FHWA. Payments qualify for 100% federal dollars.*	299,100	0	**299,100**	Varies - See Section 7.4
7.10	RL	**FY11 Contract Research with WSU** *Funds for Research Project 210 were encumbered in FY11. In FY12, we are budgeting $5,800 to purchase a non-nuclear gauge needed for the study.*	4,600	1,200	**5,800**	Clint Hoops
7.13	RL	**FY12 Contract Research with WSU** *Research Project 213 is a joint project between WSU and UI. The total budget is $190,000. The remaining $40,000 will be budgeted in FY13.*	120,000	30,000	**150,000**	Mike Santi
7.14	RL	**FY12 Contract Research with UI** *Research Projects 214, 216, 218, 222, and 223 $1,200 is budgeted for computer equipment needed for Project 216. Other costs of these projects toalling $195,300 will be paid with funds originally budgeted for Research Project 211 and savings from completed projects.*	1,000	200	**1,200**	Steve Rich Brent Jennings Greg Laragan
7.15	RL	**FY12 Contract Research with MSU** *Research project 217.*	96,000	24,000	**120,000**	Cathy Ford
7.16	RL	**FY12 Contract Research with BSU** *Funds are budgeted to cover a portion of the cost of ResearchProject 219. Remaining funds needed for this multi-year project will be budgeted in FY13.*	55,200	13,800	**69,000**	Bill Nicholson
7.17	RL	**FY12 Research within ITD** *SPR Funds are budgeted to purchase sensors and data loggers. $105,400 in State funds will also be devoted to the project.*	17,000	4,300	**21,300**	Tom Haynes
7.18	RL	**FY12 Contract Research with Claremont Grad. Univ.** *ResearchProject 220.*	120,000	30,000	**150,000**	Brent Jennings
7.19	RL	**FY12 Contract Research with Cambridge Systematics** *Research funds are budgeted to cover a portion of the $50,054 cost for Project 221. Remaining funds are coming from Planning (see Item 2.1).*	8,200	2,000	**10,200**	Erika Bowen
7.20	RG	**Research Administration**	148,900	37,300	**186,200**	Ned Parrish
		Pooled Fund and NCHRP Costs (Items 1 & 4)	596,400	0	**596,400**	
		Program Budget (excluding items 1 & 4)	617,800	154,500	**772,300**	
		Total SPR Research	**1,214,200**	**154,500**	**1,368,700**	

FY12 RESEARCH
PLANNED WORK WITH PRIOR YEAR SPR
TOTAL PROGRAM FUNDING SUMMARY

Item #	Phase (FC)	Work Program Task	Technical Contact
7.5	RL	FY09 Contract Research with UI (NIATT) - Research Projects 191, 192, and 193 *Research Projects 191, 192, and 193 were initiated in FY 2009 and will be completed in FY2012. Total cost of the projects is $418,002. Funding to complete the projects was encumbered in the FY2010 budget.*	Brent Jennings Cathy Ford Mike Santi
7.6	RL	FY10 Contract Research with UI (NIATT) - Research Projects 199 and 200 *Research Projects 199 and 200 were initiated in FY2010 and will by competed in FY2012. Total cost of the projects is $171,291. Funding to complete the projects was encumbered in the FY2010 budget.*	Mike Santi Kelly Campbell
7.7	RL	FY11 Contract Research with UI (NIATT) - Research Projects 204, 205A, and 212 *Research Projects 204, 205A, and 212 were selected in FY2011. Three of projects (204, 205A, and 212) are underway. Costs for Research Projects 204, 205A, and 212 were previously encumbered. .*	Maureen Gresham Ned Parrish Keith Nottingham
7.8	RL	FY11 Contract Research with BSU Research - Projects 206, 207, and 208 *Research Projects 206, 207, and 208 were initiated in FY2011 and will be completed in FY2012 and FY2013. Total cost of the projects is $144,848. Funding to complete the projects was encumbered in the FY2010 and FY2011 budgets.*	Keith Nottingham Bill Nicholson Bob Koeberlein
7.9	RL	FY11 Contract Research with MSU - Research Projects 201 and 209 *Research Projects 201 and 209 were initiated in FY2011 and will be completed in FY2012. Total cost of the projects is $231,852. Funding of $170,000 was encumbered to complete the project in FY2011. The remaining $61,882 was encumbered by ITD's Office of Highway Safety in FY2011 to pay the remaining costs.*	Steve Spoor Steve Rich
7.11	RL	FY11 Contract Research with Gordon Proctor & Associates – Research Project 205B *Research Project 205B was initiated in FY2011 and will be completed in FY2012. Total cost of the project is $23,190. Funding to complete the project was encumbered in the FY2011 budget.*	Ned Parrish
7.12	RL	FY12 Contract Research with AASHTO/Applied Research Assoc.– Research Project 211 *Research Project 211 was originally planned as a continuation of previous research on Mechanistic-Empirical Pavement Design. The work was to be done by a researcher at the UI. Due to unforeseen circumstances, this project could not be initiated. This scaled back project will focus on getting the final AASHTOWare software, DARWin-ME, up and running with the Idaho Specific data developed in Research Project 193, providing training to ITD Materials staff regarding the use of the tool, and developing a roadmap for further research and enhancements. The total cost of the project will be $69,600, with $34,600 coming from the funds previously budgeted for the UI project and $35,000 coming from state dedicated funds.*	Mike Santi

PART IV: TOTAL PLANNING AND RESEARCH PROGRAM FUNDING SUMMARY

	Work Program Task	Federal	State Match	FY12 Work Program
Part A	**SPR Planning**			
	Direct Program Cost	3,421,300	855,200	4,276,500
	Indirect Cost Estimate at 11.22%	383,800	96,000	479,800
	Total:	**3,805,100**	**951,200**	**4,756,300**
Part B	**SPR Research**			
	Direct Program Cost	1,214,200	154,500	1,368,700
	Indirect Cost Estimate at 11.22%	69,400	17,300	86,700
	Total:	**1,283,600**	**171,800**	**1,455,400**
	TOTAL SPR WORK PROGRAM (F12901A/F12901R)	5,088,700	1,123,000	6,211,700

	Work Program Task	Federal	State Match	FY12 Work Program
TP	**Non SPR Planning and Research**			
	Public Transportation Administration Grant	99,300	24,800	124,100
	Safe Routes to School	180,000	0,000	180,000
	Federal Rail Administration Grant	200,000	50,000	250,000
	Other Non SPR Funds	176,000	44,000	220,000
	Total:	**655,300**	**118,800**	**774,100**
LHTAC	**Non SPR Planning and Research**		LHTAC Match	
	LHTAC Technology Transfer Study in Western States	**120,500**	**9,500**	**130,000**
	TOTAL NON SPR WORK PROGRAM	775,800	128,300	904,100

Work Program Task	Federal	Match	FY12 Work Program
SPR AND NON SPR GRAND TOTAL:	5,864,500	1,251,300	7,115,800